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NEWS 1		Web Page for STN Seminar Schedule - N. America
NEWS 2	AUG 06	CAS REGISTRY enhanced with new experimental property tags
NEWS 3	AUG 06	FSTA enhanced with new thesaurus edition
NEWS 4	AUG 13	CA/CAplus enhanced with additional kind codes for granted patents
NEWS 5	AUG 20	CA/CAplus enhanced with CAS indexing in pre-1907 records
NEWS 6	AUG 27	Full-text patent databases enhanced with predefined patent family display formats from INPADOCDB
NEWS 7	AUG 27	USPATOLD now available on STN
NEWS 8	AUG 28	CAS REGISTRY enhanced with additional experimental spectral property data
NEWS 9	SEP 07	STN AnaVist, Version 2.0, now available with Derwent World Patents Index
NEWS 10	SEP 13	FORIS renamed to SOFIS
NEWS 11	SEP 13	INPADOCDB enhanced with monthly SDI frequency
NEWS 12	SEP 17	CA/CAplus enhanced with printed CA page images from 1967-1998
NEWS 13	SEP 17	CAplus coverage extended to include traditional medicine patents
NEWS 14	SEP 24	EMBASE, EMBAL, and LEMBASE reloaded with enhancements
NEWS 15	OCT 02	CA/CAplus enhanced with pre-1907 records from Chemisches Zentralblatt
NEWS 16	OCT 19	BEILSTEIN updated with new compounds
NEWS 17	NOV 15	Derwent Indian patent publication number format enhanced
NEWS 18	NOV 19	WPIX enhanced with XML display format
NEWS 19	NOV 30	ICSD reloaded with enhancements
NEWS 20	DEC 04	LINPADOCDB now available on STN
NEWS 21	DEC 14	BEILSTEIN pricing structure to change
NEWS 22	DEC 17	USPATOLD added to additional database clusters
NEWS 23	DEC 17	IMSDRUGCONF removed from database clusters and STN
NEWS 24	DEC 17	DGENE now includes more than 10 million sequences
NEWS 25	DEC 17	TOXCENTER enhanced with 2008 MeSH vocabulary in MEDLINE segment
NEWS 26	DEC 17	MEDLINE and LMEDLINE updated with 2008 MeSH vocabulary
NEWS 27	DEC 17	CA/CAplus enhanced with new custom IPC display formats
NEWS 28	DEC 17	STN Viewer enhanced with full-text patent content from USPATOLD
NEWS 29	JAN 02	STN pricing information for 2008 now available
NEWS 30	JAN 16	CAS patent coverage enhanced to include exemplified prophetic substances

NEWS EXPRESS 19 SEPTEMBER 2007: CURRENT WINDOWS VERSION IS V8.2, CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP), AND CURRENT DISCOVER FILE IS DATED 19 SEPTEMBER 2007.

NEWS HOURS	STN Operating Hours Plus Help Desk Availability
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FILE 'HOME' ENTERED AT 19:44:47 ON 22 JAN 2008

=> file registry
COST IN U.S. DOLLARS

	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.21	0.21

FILE 'REGISTRY' ENTERED AT 19:45:01 ON 22 JAN 2008
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STRUCTURE FILE UPDATES: 21 JAN 2008 HIGHEST RN 1000370-19-3
DICTIONARY FILE UPDATES: 21 JAN 2008 HIGHEST RN 1000370-19-3

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH June 29, 2007

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REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

http://www.cas.org/support/stngen/stndoc/properties.html

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Uploading C:\Documents and Settings\jcho2\My Documents\10542914.str

L1 STRUCTURE UPLOADED

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L1 HAS NO ANSWERS
L1 STR
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

Structure attributes must be viewed using STN Express query preparation.

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FULL SEARCH INITIATED 19:45:47 FILE 'REGISTRY'
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100.0% PROCESSED 3 ITERATIONS 1 ANSWERS
SEARCH TIME: 00.00.01

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L2            1 SEA EXA FUL L1

=> file caplus
COST IN U.S. DOLLARS                                  SINCE FILE      TOTAL
                                                         ENTRY    SESSION
FULL ESTIMATED COST                                      60.77      60.98

FILE 'CAPLUS' ENTERED AT 19:46:14 ON 22 JAN 2008
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FILE COVERS 1907 - 22 Jan 2008  VOL 148 ISS 4
FILE LAST UPDATED: 21 Jan 2008  (20080121/ED)

Effective October 17, 2005, revised CAS Information Use Policies apply.
They are available for your review at:

http://www.cas.org/infopolicy.html

=> s l2
L3            1 L2

=> d l3 bib abs hitstr

L3   ANSWER 1 OF 1  CAPLUS  COPYRIGHT 2008 ACS on STN
AN   2004:633495  CAPLUS
DN   141:151034
TI   Use of a composition comprising vitamin K1 oxide or a derivative thereof
     for the treatment and/or the prevention of mammalian dermatological
     lesions
IN   Marchal, Alfred
PA   Auriga International S.A., Belg.
SO   PCT Int. Appl., 17 pp.
     CODEN: PIXXD2
DT   Patent
LA   English
FAN.CNT 2
     PATENT NO.          KIND   DATE        APPLICATION NO.         DATE
     ---------------     ----   --------    --------------------    --------
PI   WO 2004064798        A1     20040805    WO 2004-BE11            20040120
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
             CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
             GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
             LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ
     EP 1442738          A1     20040804    EP 2003-447019          20030128
         R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK
     CA 2513324          A1     20040805    CA 2004-2513324         20040120
     EP 1594456          A1     20051116    EP 2004-703319          20040120
         R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK
     CN 1738594          A      20060222    CN 2004-80002490        20040120
```

	JP 2006515873	T	20060608	JP 2006-500422	20040120
	US 2006154983	A1	20060713	US 2005-542914	20050720
	IN 2005DN03209	A	20070413	IN 2005-DN3209	20050720
PRAI	US 2003-319887P	P	20030120		
	EP 2003-447019	A	20030128		
	US 2002-361234P	P	20020301		
	WO 2004-BE11	W	20040120		

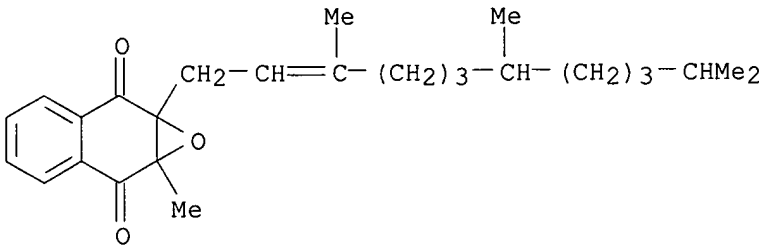
OS MARPAT 141:151034

AB The invention discloses the use of a composition which comprises an adequate pharmaceutical or cosmetic carrier or diluent and a sufficient amount of vitamin K1 oxide, or a derivative thereof, for the treatment and/or the prevention of mammalian dermatol. lesions. The invention also discloses a cosmetic composition which comprises an adequate cosmetic carrier, phospholipids and vitamin K1 oxide or derivative thereof.

IT 729596-39-8
RL: COS (Cosmetic use); PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(vitamin K1 oxide or derivative for treatment and/or prevention of dermatol. lesions)

RN 729596-39-8 CAPLUS

CN Naphth[2,3-b]oxirene-2,7-dione, 1a,7a-dihydro-1a-methyl-7a-(3,7,11-trimethyl-2-dodecenyl)- (9CI) (CA INDEX NAME)



RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> file registry

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	6.89	67.87

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-0.80	-0.80

FILE 'REGISTRY' ENTERED AT 19:48:14 ON 22 JAN 2008
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STRUCTURE FILE UPDATES: 21 JAN 2008 HIGHEST RN 1000370-19-3
DICTIONARY FILE UPDATES: 21 JAN 2008 HIGHEST RN 1000370-19-3

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH June 29, 2007

Please note that search-term pricing does apply when

conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

http://www.cas.org/support/stngen/stndoc/properties.html

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Uploading C:\Documents and Settings\jcho2\My Documents\10542914-a.str

L4 STRUCTURE UPLOADED

=> d l4
L4 HAS NO ANSWERS
L4 STR

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

Structure attributes must be viewed using STN Express query preparation.

=> s l4 sss sam
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SAMPLE SCREEN SEARCH COMPLETED - 19 TO ITERATE

100.0% PROCESSED 19 ITERATIONS 0 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 119 TO 641
PROJECTED ANSWERS: 0 TO 0

L5 0 SEA SSS SAM L4

=> s l4 sss full
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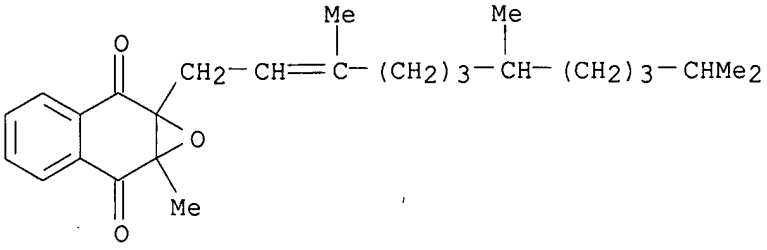
FULL SCREEN SEARCH COMPLETED - 366 TO ITERATE

100.0% PROCESSED 366 ITERATIONS 1 ANSWERS
SEARCH TIME: 00.00.01

L6 1 SEA SSS FUL L4

=> d scan

L6 1 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
IN Naphth[2,3-b]oxirene-2,7-dione, 1a,7a-dihydro-1a-methyl-7a-(3,7,11-trimethyl-2-dodecenyl)- (9CI)
MF C26 H36 O3



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

ALL ANSWERS HAVE BEEN SCANNED

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Uploading C:\Documents and Settings\jcho2\My Documents\10542914-b.str

L7 STRUCTURE UPLOADED

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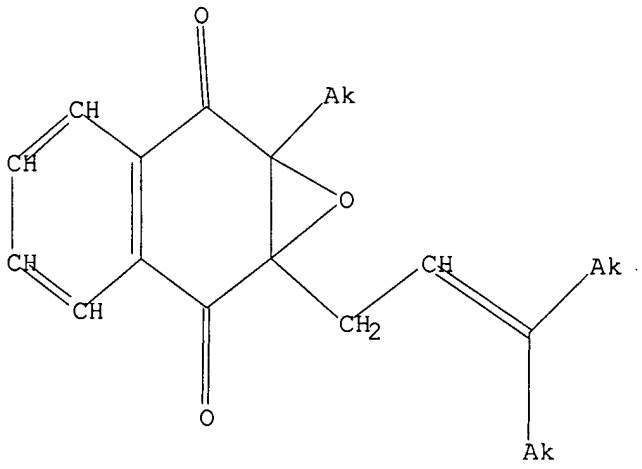
L7 HAS NO ANSWERS
L7 STR



Structure attributes must be viewed using STN Express query preparation.

=> s l7 sss sam
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100.0% PROCESSED 48 ITERATIONS 0 ANSWERS
SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 545 TO 1375
PROJECTED ANSWERS: 0 TO 0

L8 0 SEA SSS SAM L7

=> s l7 sss full
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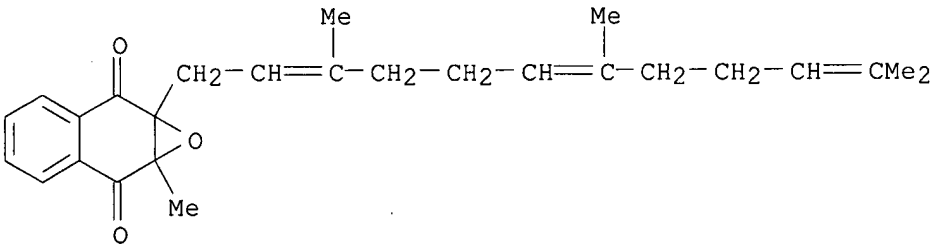
100.0% PROCESSED 1250 ITERATIONS 25 ANSWERS
SEARCH TIME: 00.00.01

L9 25 SEA SSS FUL L7

=> d scan

L9 25 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
IN Naphth[2,3-b]oxirene-2,7-dione, 1a,7a-dihydro-1a-methyl-7a-(3,7,11-trimethyl-2,6,10-dodecatrienyl)- (9CI)
MF C26 H32 O3

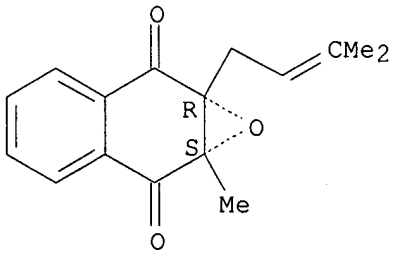


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):5

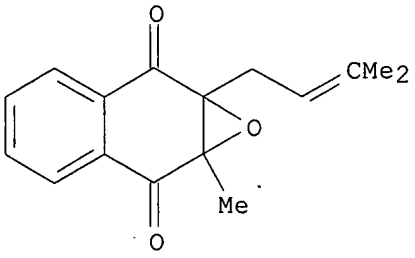
L9 25 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
IN Naphth[2,3-b]oxirene-2,7-dione, 1a,7a-dihydro-1a-methyl-7a-(3-methyl-2-butenyl)-, (1aS)- (9CI)
MF C16 H16 O3

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

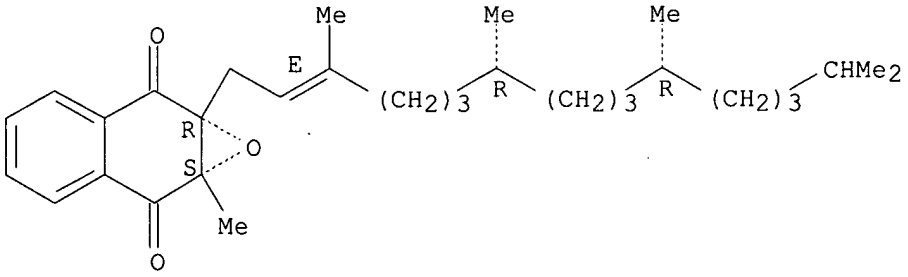
L9 25 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
IN Naphth[2,3-b]oxirene-2,7-dione, 1a,7a-dihydro-1a-methyl-7a-(3-methyl-2-butenyl)- (9CI)
MF C16 H16 O3



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L9 25 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
IN Naphth[2,3-b]oxirene-2,7-dione, 1a,7a-dihydro-1a-methyl-7a-(3,7,11,15-tetramethyl-2-hexadecenyl)-, [1aS-[1aα,7aα(2E,7S*,11S*)]]- (9CI)
MF C31 H46 O3

Absolute stereochemistry.
Double bond geometry as shown.



close prior art.

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L9 25 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
IN Naphth[2,3-b]oxirene-2,7-dione, 1a-[3,7,11,15,19,23-hexamethyl-25-(2,6,6-trimethyl-2-cyclohexen-1-yl)-2,10,14,18,22-pentacosapentaenyl]-1a,7a-dihydro-7a-methyl- (9CI)
MF C51 H74 O3

FILE COVERS 1907 - 22 Jan 2008 VOL 148 ISS 4
FILE LAST UPDATED: 21 Jan 2008 (20080121/ED)

Effective October 17, 2005, revised CAS Information Use Policies apply.
They are available for your review at:

http://www.cas.org/infopolicy.html

=> s l15
L16 180 L15

=> s composition
714220 COMPOSITION
326493 COMPOSITIONS
1033254 COMPOSITION
(COMPOSITION OR COMPOSITIONS)
1511686 COMPN
609718 COMPNS
1851288 COMPN
(COMPN OR COMPNS)
L17 2329674 COMPOSITION
(COMPOSITION OR COMPN)

=> s l16 and l17
L18 26 L16 AND L17

=> d l18 1-26 bib abs hitstr

L18 ANSWER 1 OF 26 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2005:369133 CAPLUS
DN 142:435774
TI Compositions treatment of chronic inflammatory diseases
IN Shapiro, Howard K.
PA USA
SO U.S. Pat. Appl. Publ., 44 pp., Cont.-in-part of U.S. Ser. No. 610,073, abandoned.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2005090553	A1	20050428	US 2004-924945	20040824
PRAI	US 1992-906909	B2	19920630		
	US 1994-241603	B2	19940511		
	US 1997-814291	B2	19970310		
	US 2000-610073	B2	20000705		

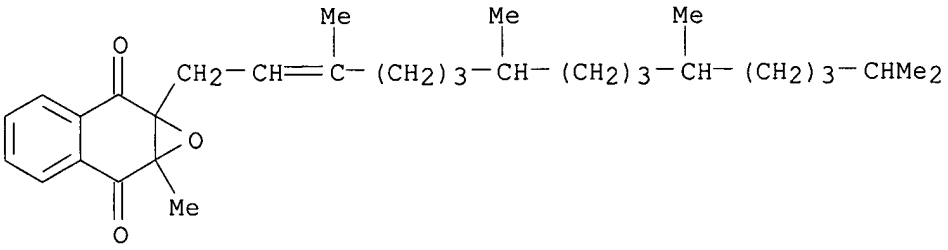
OS MARPAT 142:435774
AB This invention defines novel compns. that can be used for clin. treatment of a class of chronic inflammatory diseases. Increased generation of carbonyl substances, aldehydes and ketones, occurs at sites of chronic inflammation and is common to the etiologies of all of the clin. disorders addressed herein. Such carbonyl substances are cytotoxic and addnl. serve to perpetuate and disseminate the inflammatory process. This invention defines use of compns., the orally administered required primary agents of which are primary amine derivs. of benzoic acid capable of reacting with the carbonyl substances. P-Aminobenzoic acid (or PABA) is an example of the required primary agent of the present invention. PABA has a small mol. weight, is water soluble, has a primary amine group which reacts with carbonyl-containing substances and is tolerated by the body in relatively high dosages for extended periods. The method of the present invention includes administration of a compn. comprising: (1) an orally consumed primary agent; (2) a previously known medicament co-agent recognized as effective to treat a chronic

inflammatory disease addressed herein administered to the mammalian subject via the oral route, other systemic routes of administration or via the topical route; and (3) optionally 1 or more addnl. orally consumed co-agent selected from the group consisting of antioxidants, vitamins, metabolites at risk of depletion, sulfhydryl co-agents, co-agents which may facilitate glutathione activity and nonabsorbable primary amine polymeric co-agents, so as to produce an additive or synergistic physiol. effect of an anti-inflammatory nature.

IT 25486-55-9, Vitamin K1 oxide
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(compns. treatment of chronic inflammatory diseases)

RN 25486-55-9 CAPLUS

CN Naphth[2,3-b]oxirene-2,7-dione, 1a,7a-dihydro-1a-methyl-7a-(3,7,11,15-tetramethyl-2-hexadecen-1-yl)- (CA INDEX NAME)



L18 ANSWER 2 OF 26 CAPLUS COPYRIGHT 2008 ACS on STN

AN 2004:633495 CAPLUS

DN 141:151034

TI Use of a composition comprising vitamin K1 oxide or a derivative thereof for the treatment and/or the prevention of mammalian dermatological lesions

IN Marchal, Alfred

PA Auriga International S.A., Belg.

SO PCT Int. Appl., 17 pp.
CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2004064798	A1	20040805	WO 2004-BE11	20040120
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ				
	EP 1442738	A1	20040804	EP 2003-447019	20030128
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	CA 2513324	A1	20040805	CA 2004-2513324	20040120
	EP 1594456	A1	20051116	EP 2004-703319	20040120
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
	CN 1738594	A	20060222	CN 2004-80002490	20040120
	JP 2006515873	T	20060608	JP 2006-500422	20040120
	US 2006154983	A1	20060713	US 2005-542914	20050720
	IN 2005DN03209	A	20070413	IN 2005-DN3209	20050720
PRAI	US 2003-319887P	P	20030120		
	EP 2003-447019	A	20030128		
	US 2002-361234P	P	20020301		
	WO 2004-BE11	W	20040120		

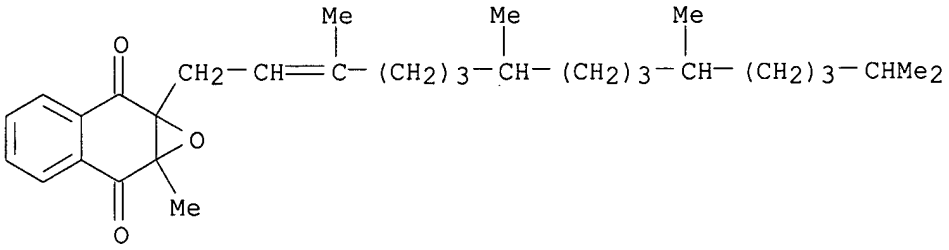
OS MARPAT 141:151034

AB The invention discloses the use of a compn. which comprises an adequate pharmaceutical or cosmetic carrier or diluent and a sufficient amount of vitamin K1 oxide, or a derivative thereof, for the treatment and/or the prevention of mammalian dermatol. lesions. The invention also discloses a cosmetic compn. which comprises an adequate cosmetic carrier, phospholipids and vitamin K1 oxide or derivative thereof.

IT 25486-55-9, Vitamin K1 oxide
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(vitamin K1 oxide or derivative for treatment and/or prevention of dermatol. lesions)

RN 25486-55-9 CAPLUS

CN Naphth[2,3-b]oxirene-2,7-dione, 1a,7a-dihydro-1a-methyl-7a-(3,7,11,15-tetramethyl-2-hexadecen-1-yl)- (CA INDEX NAME)



RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 3 OF 26 CAPLUS COPYRIGHT 2008 ACS on STN

AN 2002:667430 CAPLUS

DN 137:195570

TI Methods of treating chronic inflammatory diseases using carbonyl trapping agents

IN Shapiro, Howard K.

PA USA

SO U.S., 23 pp., Cont.-in-part of U.S. Ser. No. 473,786, abandoned.
CODEN: USXXAM

DT Patent

LA English

FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6444221	B1	20020903	US 1999-416120	19991012
PRAI	US 1992-906909	B2	19920630		
	US 1995-473786	B2	19950607		

OS MARPAT 137:195570

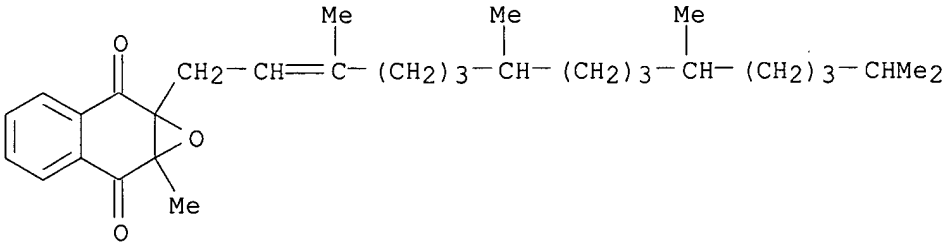
AB These and other objects of this invention are achieved by providing a novel method and compns. for the clin. treatment of chronic inflammatory diseases. This invention involves use of systemically administered compns. which include primary amine derivs. of benzoic acid as carbonyl trapping agents. These primary therapeutic agents act by chemical binding to and sequestering the aldehyde and/or ketone products of lipid peroxidn. Increased levels of lipid peroxidn. have been repeatedly demonstrated as a part of the non-enzymic "inflammatory cascade" process which underlies the secondary etiol. of chronic inflammatory diseases. P-Aminobenzoic acid (or PABA) is an example of the primary therapeutic agent of the present invention. PABA has a small mol. weight, is water soluble, has a primary amine group that reacts with carbonyl-containing metabolites under physiol. conditions and is tolerated by the body in relatively high dosages and for extended periods. The carbonyl sequestering agents are used in combination with at least one co-agent to produce an addnl. beneficial physiol. effect of an

anti-inflammatory nature. Such compns. are administered systemically entirely via the oral route. Co-agents of the present invention include anti-oxidants and free radical trapping compds. (e.g., α-tocopherol), compds. having indirect anti-oxidant activity (e.g., selenium), vitamins (e.g., pyridoxine HCl), compds. which facilitate kidney drug elimination (e.g., glycine), metabolites at risk of depletion (e.g., pantothenic acid), sulfhydryl containing chems. (e.g., methionine), compds. which facilitate glutathione activity (e.g., N-acetylcysteine), and non-absorbable polyamine co-agents (e.g., chitosan).

IT 25486-55-9, Vitamin K1 oxide
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(methods of treating chronic inflammatory diseases using primary amine derivs. of benzoic acid as carbonyl trapping agents and combination with other agents)

RN 25486-55-9 CAPLUS

CN Naphth[2,3-b]oxirene-2,7-dione, 1a,7a-dihydro-1a-methyl-7a-(3,7,11,15-tetramethyl-2-hexadecen-1-yl)- (CA INDEX NAME)



RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 4 OF 26 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1993:516157 CAPLUS

DN 119:116157

TI Hepatic concentration of vitamin K active compounds after application of phylloquinone to chickens on a vitamin K deficient or adequate diet

AU Guillaumont, M.; Weiser, H.; Sann, L.; Vignal, B.; Leclercq, M.; Frederich, A.

CS Inst. Pasteur Lyon, UFR Alexis Carrel, Lyon, 69372, Fr.

SO International Journal for Vitamin and Nutrition Research (1992), 62(1), 15-20
CODEN: IJVNAP; ISSN: 0300-9831

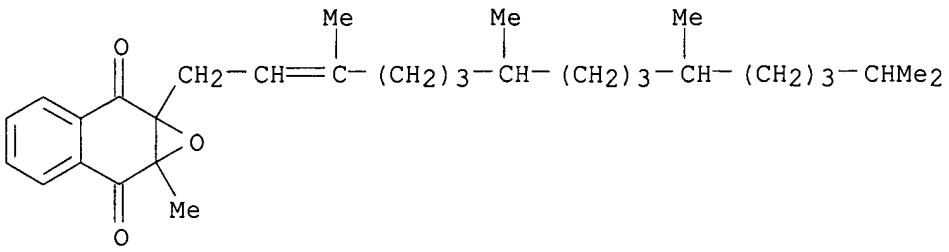
DT Journal

LA English

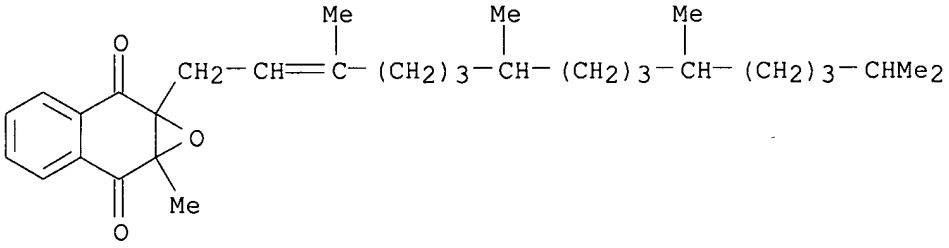
AB Liver and serum concns. of vitamin K active compds. were measured in two groups of (deficient and normal) broilers after i.v. administration of phylloquinone (1 mg/kg). Assays were performed by HPLC after extraction and purification of these compds. The only menaquinone found in the chicken was menaquinone-4. In the deficient group, the chickens exhibited hepatic concns. of vitamin K1, vitamin K1 epoxide and menaquinone-4 markedly lower than those of the control group. After administration of phylloquinone, vitamin K and vitamin K epoxide levels fell sharply. There is no hepatic storage of vitamin K comparable to that of vitamin A. However, while menaquinone levels were found to be stable in the control group, they rose significantly in the deficient group after vitamin K injection. The question is: is there a transformation of vitamin K into menaquinone and/or is there a preferential utilization of one of the vitamin K active compds.

IT 25486-55-9, Vitamin K1 epoxide
RL: BIOL (Biological study)
(of blood serum and liver of chickens, i.v. phylloquinone effect on)

RN 25486-55-9 CAPLUS
CN Naphth[2,3-b]oxirene-2,7-dione, 1a,7a-dihydro-1a-methyl-7a-(3,7,11,15-tetramethyl-2-hexadecen-1-yl)- (CA INDEX NAME)



L18 ANSWER 5 OF 26 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1991:629077 CAPLUS
DN 115:229077
TI Vitamin K epoxide reduction and vitamin K quinone reduction, gamma-carboxyglutamic acid analysis, and vitamin K-dependent activities from liver mitochondria and adipose tissue
AU Smalley, David Michael
CS Univ. Akron, Akron, OH, USA
SO (1991) 167 pp. Avail.: Univ. Microfilms Int., Order No. DA9115472 From: Diss. Abstr. Int. B 1991, 52(1), 222-23
DT Dissertation
LA English
AB Unavailable
IT 25486-55-9, Vitamin K epoxide
RL: RCT (Reactant); RACT (Reactant or reagent)
(reduction of, by liver, adipose tissue in relation to)
RN 25486-55-9 CAPLUS
CN Naphth[2,3-b]oxirene-2,7-dione, 1a,7a-dihydro-1a-methyl-7a-(3,7,11,15-tetramethyl-2-hexadecen-1-yl)- (CA INDEX NAME)



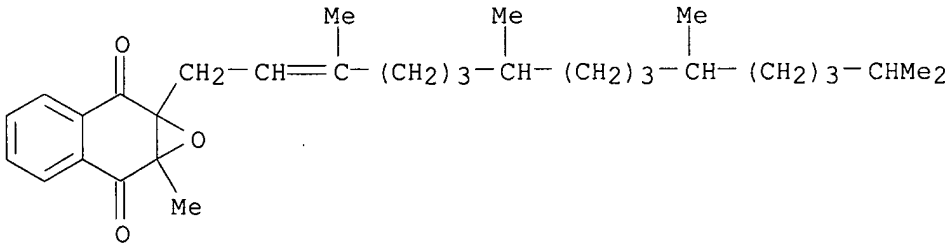
L18 ANSWER 6 OF 26 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1991:1894 CAPLUS
DN 114:1894
TI Vitamin K-dependent carboxylase: inhibitory action of polychlorinated phenols
AU Grossman, Carol P.; Suttie, J. W.
CS Coll. Agric. Life Sci., Univ. Wisconsin, Madison, WI, 53706, USA
SO Biochemical Pharmacology (1990), 40(6), 1351-5
CODEN: BCPCA6; ISSN: 0006-2952
DT Journal
LA English
AB A series of chlorinated phenols was assayed for their abilities to inhibit carboxylase in vitro. One compound, 2,3,5,6-tetrachlorophenol, was as potent a carboxylase inhibitor as 2,3,5,6-tetrachloropyridinol (TCP) (I50

= 5-10 μM). Four compds. with substituents in the 4 position exhibited I50 5-20 times greater than the identical structures with H in the 4 position. Tetrachloroanisol, the Me ether of tetrachlorophenol, did not inhibit the reaction, and inhibition by 2,5-dichlorophenol, which has a pKa of 7.2, was pH dependent, suggesting that the anionic form of the phenol is the inhibitor. TCP inhibition of the carboxylase is not competitive vs. vitamin K in vitro, but that in vivo antagonism by TCP can be reversed with vitamin K. Rats given 40 mg/kg TCP had decreased plasma prothrombin levels and increased amts. of liver microsomal prothrombin precursors, whereas rats injected with 1 mg vitamin K 24 h before the TCP injection had normal levels of both. Vitamin K administration could not overcome completely the effects of 100 mg/kg TCP. Animals injected with TCP had increased levels of vitamin K 2,3-epoxide in the liver, which would be consistent with a partial inhibition of the microsomal vitamin K-epoxide reductase by this anticoagulant.

IT 25486-55-9, Vitamin K 2,3-epoxide
RL: BIOL (Biological study)
(of liver microsomes, tetrachloropyridinol effect on)

RN 25486-55-9 CAPLUS

CN Naphth[2,3-b]oxirene-2,7-dione, 1a,7a-dihydro-1a-methyl-7a-(3,7,11,15-tetramethyl-2-hexadecen-1-yl)- (CA INDEX NAME)



L18 ANSWER 7 OF 26 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1990:231749 CAPLUS

DN 112:231749

TI Substituted vitamin K epoxide analogs. New competitive inhibitors and substrates of vitamin K1 epoxide reductase

AU Ryall, Robert P.; Nandi, Dhirendra L.; Silverman, Richard B.

CS Dep. Chem., Northwestern Univ., Evanston, IL, 60208-3113, USA

SO Journal of Medicinal Chemistry (1990), 33(6), 1790-7
CODEN: JMCMAR; ISSN: 0022-2623

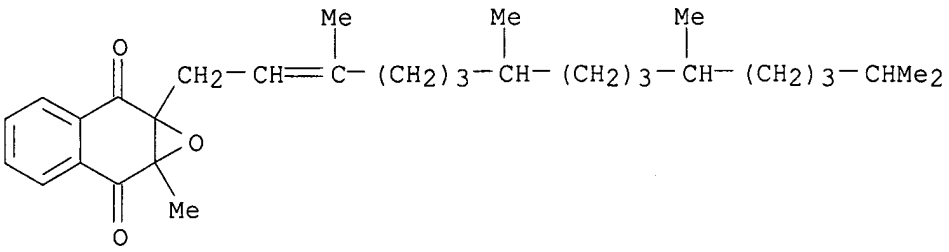
DT Journal

LA English

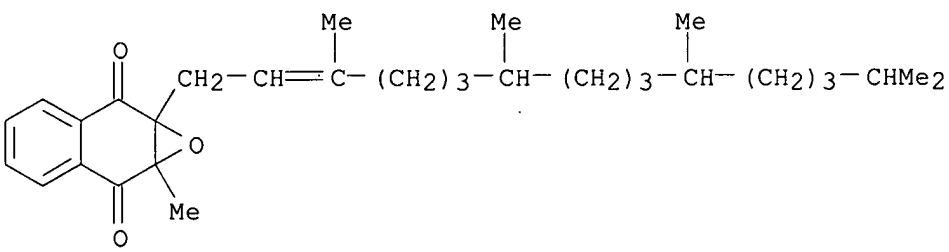
AB Several 2- and 3-substituted vitamin K 2,3-epoxide analogs were synthesized and tested as inactivators, inhibitors, and substrates for bovine liver microsomal vitamin K1 epoxide reductase (I). 2-(X)-3-phytyl-1,4-naphthoquinone 2,3-epoxides, where X is hydroxymethyl, chloromethyl, fluoromethyl, difluoromethyl, and formyl were all competitive inhibitors, but none was an inactivator. Only the 2-hydroxymethyl analog was reduced to a quinone that was stable enough under the conditions of the experiment to be detected. Vitamin K1 epoxide analogs with modified phytyl chains (1'-hydroxy, 3'-fluoro with isomerized double bond, 1'-hydroxy and 1'-fluoro with saturated double bond, and the corresponding unsubstituted chains) were synthesized. All of the analogs were competitive inhibitors of I. The nonfluorinated analogs also were shown to be substrates, being reduced to the corresponding quinones without enzyme inactivation. At least one other enzyme besides I in bovine liver microsomes also metabolized all of these analogs.

IT 25486-55-9DP, Vitamin K1 epoxide, analogs
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and interaction with vitamin K epoxide reductase)

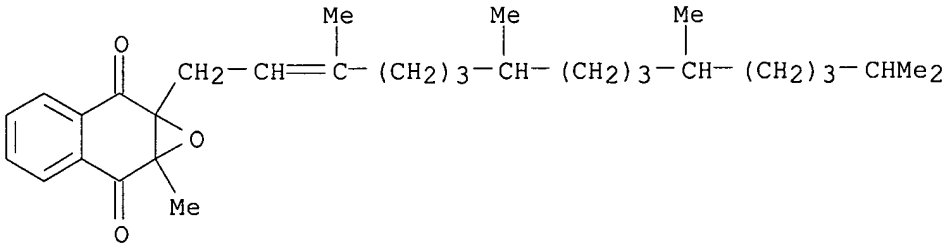
RN 25486-55-9 CAPLUS
CN Naphth[2,3-b]oxirene-2,7-dione, 1a,7a-dihydro-1a-methyl-7a-(3,7,11,15-tetramethyl-2-hexadecen-1-yl)- (CA INDEX NAME)



L18 ANSWER 8 OF 26 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1988:200781 CAPLUS
DN 108:200781
TI Vitamin K-dependent carboxylase. Stoichiometry of vitamin K epoxide formation, γ-carboxyglutamyl formation, and γ-glutamyl-3H cleavage
AU Wood, Gary M.; Suttie, J. W.
CS Coll. Agric. Life Sci., Univ. Wisconsin-Madison, Madison, WI, 53706, USA
SO Journal of Biological Chemistry (1988), 263(7), 3234-9
CODEN: JBCHA3; ISSN: 0021-9258
DT Journal
LA English
AB Rat liver microsomal vitamin K-dependent carboxylase catalyzes the carboxylation of peptide-bound glutamyl (Glu) residues to γ-carboxyglutamyl (Gla) residues with the concomitant formation of vitamin K 2,3-epoxide (KO). These studies have demonstrated that the half-reaction, formation of KO, occurs in the absence of carboxylation at low glutamyl substrate concentration but that the ratio of KO-Gla approaches unity as the glutamyl substrate concentration is increased. Utilization of the carboxylase substrate Phe-Leu-[γ-3H]Glu-Glu-Leu has demonstrated that the ratios of KO/γ-C-H bonds cleaved and Gla/γ-C-H bonds cleaved are equivalent at high substrate concns. and that these ratios approach unity. At low substrate concns., KO formation occurs at a higher rate than γ-H bond cleavage. These data are consistent with a mechanism involving the formation of an oxygenated intermediate from vitamin KH2 and O that is converted to KO during H abstraction from the γ-position of the Glu substrate. In the absence of a Glu substrate, the intermediate is converted to KO by a mechanism not coupled to glutamyl activation.
IT 25486-55-9, Vitamin K 2,3-epoxide
RL: FORM (Formation, nonpreparative)
(formation of, by vitamin K-dependent γ-glutamyl carboxylase, stoichiometry and mechanism of)
RN 25486-55-9 CAPLUS
CN Naphth[2,3-b]oxirene-2,7-dione, 1a,7a-dihydro-1a-methyl-7a-(3,7,11,15-tetramethyl-2-hexadecen-1-yl)- (CA INDEX NAME)



L18 ANSWER 9 OF 26 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1987:12426 CAPLUS
DN 106:12426
TI Effect of N-methyl-thiotetrazole on vitamin K epoxide reductase
AU Creedon, Kathleen A.; Suttie, J. W.
CS Coll. Agric. Life Sci., Univ. Wisconsin, Madison, WI, 53706, USA
SO Thrombosis Research (1986), 44(2), 147-53
CODEN: THBRAA; ISSN: 0049-3848
DT Journal
LA English
AB Clin. use of antibiotics containing a N-methyl-thiotetrazole (NMTT) [13183-79-4] side chain has been reported to be associated with an increased incidence of a vitamin K [12001-79-5]-responsive hypoprothrombinemia. Administration of NMTT to rats decreased the activity of the liver microsomal vitamin K epoxide reductase [55963-40-1], increased the liver ratio of Vitamin K1 epoxide [25486-55-9] to vitamin K, and decreased the rate of metabolism of injected vitamin K epoxide. These responses are the same as those observed following the administration of coumarin anticoagulants. In contrast to the effect of coumarin anticoagulants, NMTT did not inhibit the vitamin K epoxide reductase in vitro. These data suggest that the hypoprothrombinemia which has been observed following use of these antibiotics results from the inactivation of the liver vitamin K epoxide reductase by NMTT or a NMTT metabolite.
IT 25486-55-9
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(metabolism of, by liver, methylthiotetrazole effect on)
RN 25486-55-9 CAPLUS
CN Naphth[2,3-b]oxirene-2,7-dione, 1a,7a-dihydro-1a-methyl-7a-(3,7,11,15-tetramethyl-2-hexadecen-1-yl)- (CA INDEX NAME)



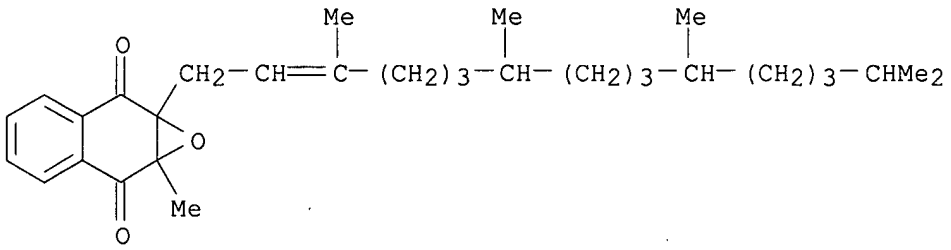
L18 ANSWER 10 OF 26 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1986:454333 CAPLUS
DN 105:54333
OREF 105:8761a,8764a
TI The vitamin K-antagonism of salicylate and warfarin
AU Roncaglioni, M. C.; Ulrich, M. M. W.; Muller, A. D.; Soute, B. A. M.; De Boer-Van den Berg, M. A. G.; Vermeer, C.
CS Dep. Biochem., Univ. Limburg, Maastricht, 6200 MD, Neth.
SO Thrombosis Research (1986), 42(6), 727-36
CODEN: THBRAA; ISSN: 0049-3848
DT Journal
LA English
AB The effects of salicylate [69-72-7] and warfarin [81-81-2] on the plasma levels of coagulation factors and on the accumulation of endogenous substrates (e.g., clotting factor precursors) in liver and lung were examined in rats. When administered in high doses, salicylate acts as a vitamin K [12001-79-5]-antagonist; it induces a decrease of the plasma concentration of the Gla-containing coagulation factors and an accumulation of microsomal substrates for vitamin K-dependent carboxylase [9031-55-4] in

the liver and in the lung. In vitro, the drugs inhibit the DTT-dependent reductases which mediate the reduction, of vitamin K epoxide [25486-55-9] and vitamin K quinone [84-80-0]. NADH-dependent reductase [9037-80-3] and vitamin K-dependent carboxylase are not inhibited.

IT 25486-55-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(reduction of, reductase for, salicylate and warfarin effect on)

RN 25486-55-9 CAPLUS

CN Naphth[2,3-b]oxirene-2,7-dione, 1a,7a-dihydro-1a-methyl-7a-(3,7,11,15-tetramethyl-2-hexadecen-1-yl)- (CA INDEX NAME)



L18 ANSWER 11 OF 26 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1986:122492 CAPLUS

DN 104:122492

OREF 104:19175a,19178a

TI Quantitative analysis of pharmacological concentrations of vitamin K1 and vitamin K1 2,3-epoxide in rat liver by high-performance liquid chromatography

AU Cholerton, Suzanne; Park, B. Kevin

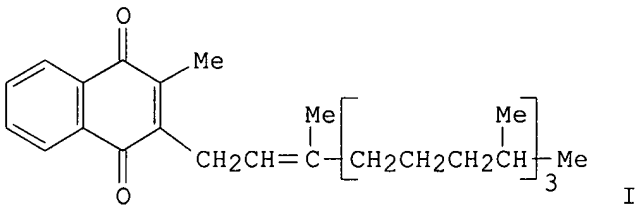
CS Univ. Liverpool, Liverpool, L69 2BX, UK

SO Journal of Chromatography (1986), 375(1), 147-53
CODEN: JOCRAM; ISSN: 0021-9673

DT Journal

LA English

GI



I

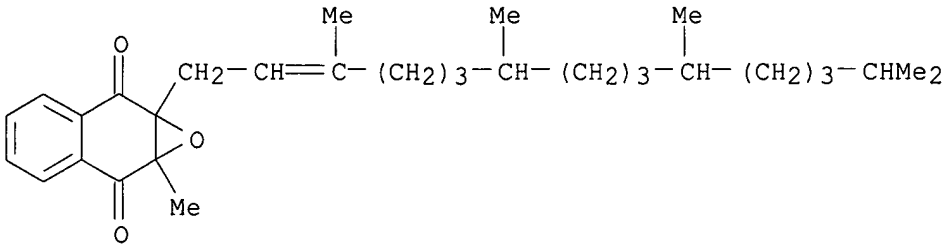
AB Liver vitamin K1 (I) [84-80-0] and vitamin K1 2,3-epoxide (II) [25486-55-9] were determined following pharmacol. doses by normal-phase HPLC on Partisil 10 ODS with 0.23% MeCN in hexane as mobile phase for separation from interfering material followed by reversed-phase HPLC on Ultrasphere ODS C10 with 12.5% CH2Cl2 in MeCN as mobile phase. UV detection at 254 nm was performed. Recoveries were 61 and 77% for I and II, resp. The method was applied to study the response of liver I and II to anticoagulants.

IT 25486-55-9
RL: ANT (Analyte); ANST (Analytical study)
(determination of, in liver by HPLC)

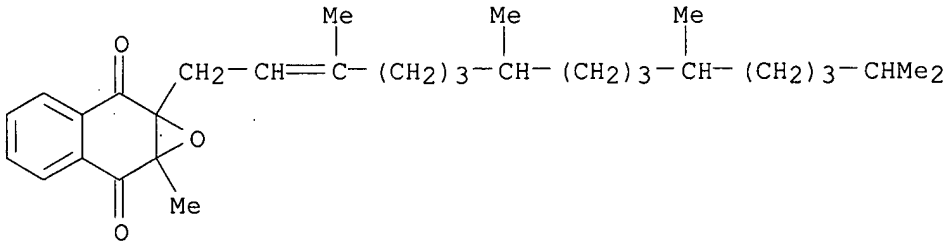
RN 25486-55-9 CAPLUS

CN Naphth[2,3-b]oxirene-2,7-dione, 1a,7a-dihydro-1a-methyl-7a-(3,7,11,15-

tetramethyl-2-hexadecen-1-yl)- (CA INDEX NAME)

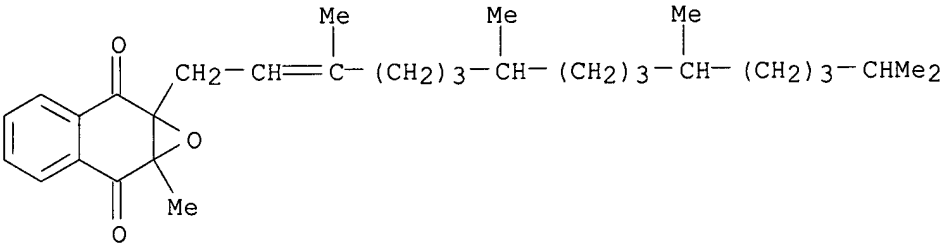


L18 ANSWER 12 OF 26 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1985:499900 CAPLUS
DN 103:99900
OREF 103:15913a,15916a
TI Vitamin K epoxide reductase activity in the metabolism of epoxides
AU Liptay-Reuter, I.; Dose, K.; Guenthner, T.; Woerner, W.; Oesch, F.
CS Inst. Toxicol., Mainz, D-6500, Fed. Rep. Ger.
SO Biochemical Pharmacology (1985), 34(15), 2617-20
CODEN: BCPCA6; ISSN: 0006-2952
DT Journal
LA English
AB The importance of vitamin K epoxide reductase [55963-40-1] for the metabolism of a range of structurally diverse epoxides was investigated. Vitamin K1 epoxide [25486-55-9] is reduced by rat liver microsomes at a rate of 0.47 nmol/g liver/min. The rate of menadione oxide [15448-59-6] reduction is not significantly higher than the nonenzymic reduction rate. No measurable reduction of benzo[a]pyrene 4,5-oxide [37574-47-3], benzo[a]pyrene 7,8-oxide [36504-65-1], phenanthrene 9,10-oxide [585-08-0], styrene 7,8-oxide [96-09-3], and dieldrin [60-57-1] was detected, nor could T 2 toxin [21259-20-1] inhibit reduction of vitamin K1 epoxide. Thus, vitamin K epoxide reductase is very specific for vitamin K1 epoxide. Taking into account the range of structurally diverse epoxides investigated and the high specific activities of microsomal epoxide hydrolase [9048-63-9] and cytosolic glutathione transferase [50812-37-8] for these epoxides, it may be concluded that vitamin K epoxide reductase, in all likelihood, generally does not significantly contribute to the control of epoxides metabolically formed from xenobiotics.
IT 25486-55-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(reduction of, liver microsome vitamin K epoxide reductase effect on, epoxide metabolism in relation to)
RN 25486-55-9 CAPLUS
CN Naphth[2,3-b]oxirene-2,7-dione, 1a,7a-dihydro-1a-methyl-7a-(3,7,11,15-tetramethyl-2-hexadecen-1-yl)- (CA INDEX NAME)



L18 ANSWER 13 OF 26 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1985:418824 CAPLUS
DN 103:18824
OREF 103:3067a,3070a
TI Purification of a vitamin K epoxide reductase that catalyzes conversion of vitamin K 2,3-epoxide to 3-hydroxy-2-methyl-3-phytyl-2,3-dihydronaphthoquinone
AU Mukharji, Indrani; Silverman, Richard B.
CS Dep. Chem., Northwestern Univ., Evanston, IL, 60201, USA
SO Proceedings of the National Academy of Sciences of the United States of America (1985), 82(9), 2713-17
CODEN: PNASA6; ISSN: 0027-8424
DT Journal
LA English
AB An enzyme from bovine liver microsomes that catalyzes the reduction of vitamin K 2,3-epoxide to 2- and 3-hydroxy-2-methyl-3-phytyl-2,3-dihydronaphthoquinone was purified 1152-fold to apparent homogeneity. Microsomes were solubilized with CHAPS and the enzyme was purified by chromatog. on PBE-94 ion exchanger, hydroxylapatite, and DEAE-cellulose, and then gel filtration on Sephacryl S-200. The homogeneity of the final preparation was established by SDS-polyacrylamide slab gel electrophoresis. The mol. weight of the native enzyme was 25,000 and that of the denatured enzyme was 12,400, suggesting that the enzyme is a dimer with identical subunits. No chromophoric cofactors were associated with the enzyme. Dithiothreitol and CHAPS were essential for activity, but high concns. of glycerol reduced the activity. The enzyme was not inhibited by Warfarin, a potent inhibitor of the vitamin K epoxide reductase which catalyzes the conversion of vitamin K 2,3-epoxide to vitamin K. Evidence is presented indicating that the purified enzyme is not simply a fragment of the Warfarin-sensitive vitamin K epoxide reductase.
IT 25486-55-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with Warfarin-insensitive vitamin K epoxide reductase of liver microsomes)
RN 25486-55-9 CAPLUS
CN Naphth[2,3-b]oxirene-2,7-dione, 1a,7a-dihydro-1a-methyl-7a-(3,7,11,15-tetramethyl-2-hexadecen-1-yl)- (CA INDEX NAME)



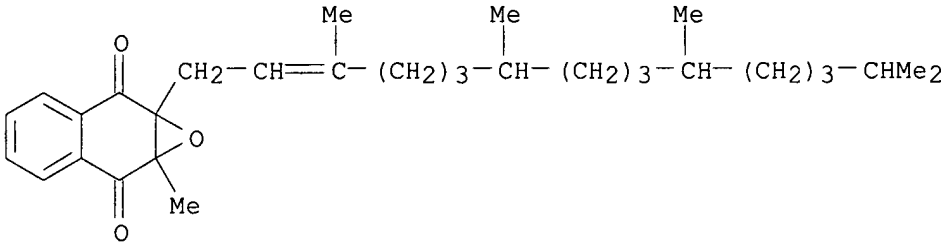
L18 ANSWER 14 OF 26 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1985:106109 CAPLUS
DN 102:106109
OREF 102:16523a,16526a
TI Indirect inhibition of vitamin K epoxide reduction by salicylate
AU Hildebrandt, E.; Suttie, J. W.
CS Coll. Agric. Life Sci., Univ. Wisconsin, Madison, WI, 53706, USA
SO Journal of Pharmacy and Pharmacology (1984), 36(9), 586-91
CODEN: JPPMAB; ISSN: 0022-3573
DT Journal
LA English
AB Salicylate [69-72-7] antagonizes the vitamin K [12001-79-5]-dependent biosynthesis of clotting factors in the rat and produces an elevation of the ratio of vitamin K epoxide [25486-55-9] to vitamin K in the

liver. Vitamin K epoxide is reduced to vitamin k by a vitamin K epoxide reductase [55963-40-1], and 1 mM salicylate was required to cause a 50% inhibition of the dithiothreitol-dependent in-vitro reduction of vitamin K epoxide by this enzyme. This enzyme was, however, inhibited 50% by as little as 70-80 μM salicylate when reducing equivalent for the reaction were furnished by endogenous cytosolic reductants. This effect on the cytosolic reductant supply was shown to be unrelated to a previously demonstrated inhibition of DT-diaphorase by salicylate. The concns. of salicylate at which significant inhibitory effects are exerted are in-vitro (50-100 μM) are below the 200 μM levels observed in the livers of rats given an anticoagulating dose of salicylate.

IT 25486-55-9
RL: BIOL (Biological study)
(of liver, salicylate effect on, clotting factor formation in relation to)

RN 25486-55-9 CAPLUS

CN Naphth[2,3-b]oxirene-2,7-dione, 1a,7a-dihydro-1a-methyl-7a-(3,7,11,15-tetramethyl-2-hexadecen-1-yl)- (CA INDEX NAME)



L18 ANSWER 15 OF 26 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1984:468222 CAPLUS

DN 101:68222

OREF 101:10471a,10474a

TI Studies on vitamin K-dependent carboxylase from the cow

AU Vermeer, C.; Soute, B. A. M.; De Metz, M.

CS Dep. Biochem., State Univ. Limburg, Neth.

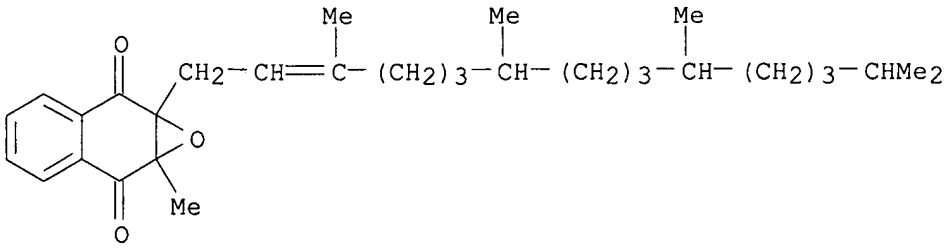
SO Posttransl. Covalent Modif. Proteins, [Int. Conf. Posttransl. Covalent Modif. Proteins Funct.] (1983), Meeting Date 1982, 231-51. Editor(s): Johnson, B. Connor. Publisher: Academic, New York, N. Y. CODEN: 51IFAP

DT Conference

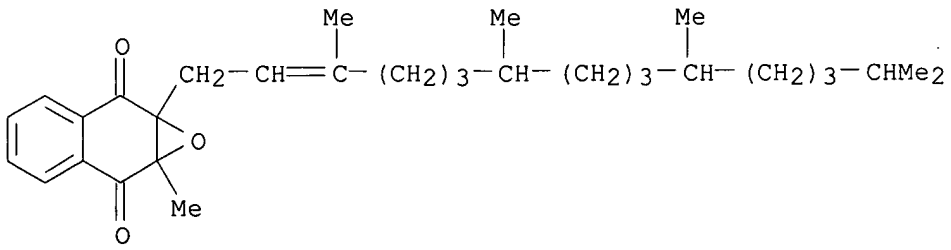
LA English

AB The vitamin K (I)-dependent γ-glutamyl carboxylase (II) systems of human and bovine liver microsomes were compound Normal bovine liver microsomes contained extremely low amts. of endogenous carboxylatable substrate for II, whereas the human livers contained high amts. of this substrate(s). Sp-II (solid-phase II, prepared by extracting solubilized microsomes from Warfarin-treated cows with highly purified Sepharose-bound antifactor X antibodies) prepns. contained 40% phosphatidylcholine (PC) and a number of proteins (60%). PC was required for II activity, but its role was uncertain. Various organic solvents (e.g., ketones and DMSO) stimulated I-dependent II by 4-5-fold, but only when vitamin K1 forms, and not menadione derivs., were used as coenzyme. Apparently, these solvents interact with the I-binding site of II, facilitating I binding and mobility during the carboxylation reaction. This increased mobility in turn leads to a decrease in the activation energy of II, values which are quite high in the absence of the solvents (for the vitamin K1-driven reaction). All the data are consistent with a model in which the long phytyl side chain of vitamin K1 interacts strongly with a hydrophobic region of II, functioning only in carrying the reactive naphthoquinone group to the enzyme active site.

IT 25486-55-9
RL: BIOL (Biological study)
(vitamin K-dependent carboxylase of liver microsomes response to)
RN 25486-55-9 CAPLUS
CN Naphth[2,3-b]oxirene-2,7-dione, 1a,7a-dihydro-1a-methyl-7a-(3,7,11,15-tetramethyl-2-hexadecen-1-yl)- (CA INDEX NAME)

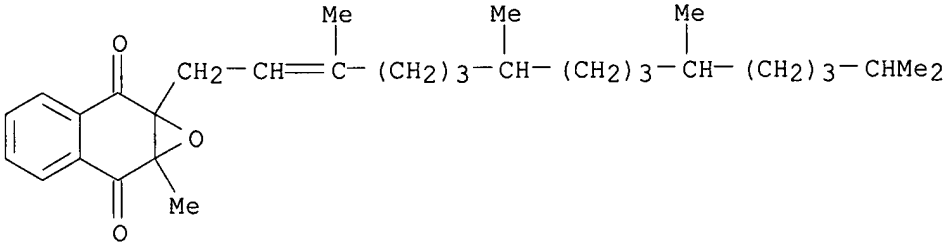


L18 ANSWER 16 OF 26 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1984:170517 CAPLUS
DN 100:170517
OREF 100:25869a,25872a
TI Relationship of dithiothreitol-dependent microsomal vitamin K quinone and vitamin K epoxide reductases. Inhibition of epoxide reduction by vitamin K quinone
AU Preusch, Peter C.; Suttie, John W.
CS Coll. Agric. Life Sci., Univ. Wisconsin, Madison, WI, 53706, USA
SO Biochimica et Biophysica Acta, General Subjects (1984), 798(1), 141-3
CODEN: BBGSB3; ISSN: 0304-4165
DT Journal
LA English
AB Vitamin K quinone was an effective inhibitor of vitamin K epoxide reduction by whole microsomes from rat liver. Inhibition was dependent upon the mode of addition of the substrate and inhibitor, suggesting segregation of the compds. into different microsomal vesicles under certain conditions. The result is consistent with reduction of both vitamin K quinone and vitamin K epoxide by a single enzyme or a multisite enzyme complex.
IT 25486-55-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(reduction of, by liver microsomes, vitamin K quinone inhibition of)
RN 25486-55-9 CAPLUS
CN Naphth[2,3-b]oxirene-2,7-dione, 1a,7a-dihydro-1a-methyl-7a-(3,7,11,15-tetramethyl-2-hexadecen-1-yl)- (CA INDEX NAME)



L18 ANSWER 17 OF 26 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1984:81749 CAPLUS
DN 100:81749
OREF 100:12339a,12342a
TI Solubilization and characterization of vitamin K epoxide reductase from

normal and Warfarin-resistant rat liver microsomes
AU Hildebrandt, E. F.; Preusch, P. C.; Patterson, J. L.; Suttie, J. W.
CS Coll. Agric. Life Sci., Univ. Wisconsin, Madison, WI, 53706, USA
SO Archives of Biochemistry and Biophysics (1984), 228(2), 480-92
CODEN: ABBIA4; ISSN: 0003-9861
DT Journal
LA English
AB Two procedures were developed for the solubilization of vitamin K epoxide reductase (I) from rat liver microsomal membranes by using the detergent Deriphat 160 at pH 10.8. The methods were applicable to both normal and Warfarin-resistant-strain rat liver microsomes and yielded material suitable for further purification The prepns. retained dithiothreitol-dependent vitamin K quinone reductase activity as well as I and were free of vitamin K-dependent carboxylase and epoxidase activities. Optimal I activity was obtained at 0.1M KCl and pH 9 in the present of Na cholate. Artifactual formation of vitamin K metabolites was eliminated through the use of HgCl2 to remove excess dithiothreitol prior to extraction and metabolite assay. By using solubilized I, valid initial velocities were measured and reproducible kinetic data were obtained. The substrate initial velocity patterns were determined and were consistent with a ping-pong kinetic mechanism. The kinetic parameters obtained were a function of the cholate concentration, but did not vary drastically from those obtained with intact microsomal membranes. At 0.8% cholate, I solubilized from normal Warfarin-sensitive- and Warfarin-resistant-strain rat livers exhibited resp. values of Vmax = 3 and 0.75 nmol/min/g liver; Km for vitamin K epoxide = 9 and 4 μM; and Km for dithiothreitol = 0.6 and 0.16 mM.
IT 25486-55-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with vitamin K epoxide reductase, kinetics of, Warfarin resistance in relation to)
RN 25486-55-9 CAPLUS
CN Naphth[2,3-b]oxirene-2,7-dione, 1a,7a-dihydro-1a-methyl-7a-(3,7,11,15-tetramethyl-2-hexadecen-1-yl)- (CA INDEX NAME)



L18 ANSWER 18 OF 26 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1983:590449 CAPLUS
DN 99:190449
OREF 99:29239a,29242a
TI Warfarin inhibition of vitamin K 2,3-epoxide reductase in rat liver microsomes
AU Fasco, Michael J.; Principe, Louise M.; Walsh, William A.; Friedman, Paul A.
CS Cent. Lab. Res., New York State Dep. Health, Albany, NY, USA
SO Biochemistry (1983), 22(24), 5655-60
CODEN: BICHAW; ISSN: 0006-2960
DT Journal
LA English
AB Warfarin (I) is a potent inhibitor of vitamin K 2,3-epoxide (II) reduction to vitamin K in vitro and in vivo. Dithiothreitol (DTT), an in vitro reductant for II reductase (III), antagonizes inhibition of III by I via mechanisms that have not yet been determined Expts. with rat hepatic

microsomes were undertaken to characterize the interactions that exist between I, II, and DTT. Increasing concns. of DTT decreased inhibition of III by I. When DTT was present prior to exposure of III to I, there was less inhibition than when the same concentration of DTT was present after its exposure to I. Moreover, maximum inhibition of III by I occurred at a much slower rate when DTT was present initially. Inhibition of III by I was greater when the substrate concentration was 100 μM II than when it was 10 μM II. On the basis of these data, it was concluded that (1) DTT reduces either directly or indirectly a critical disulfide bond within III that is reoxidized during reduction of II, (2) I and II are not competitive with respect to one another, and (3) I binding, which produces inhibition, occurs solely to the disulfide form of III. Once it is bound, I inhibits further reduction of the critical disulfide by DTT. DTT therefore antagonizes

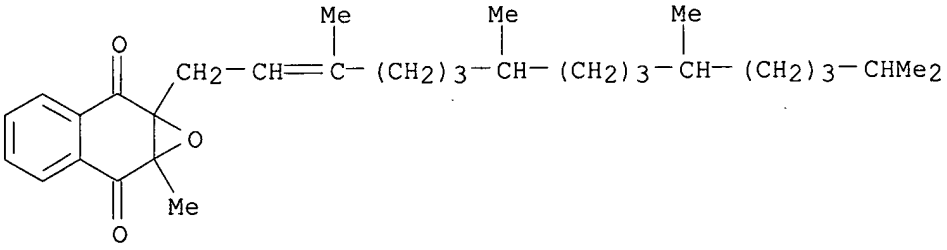
I

by maintaining III in the reduced state.

IT 25486-55-9
RL: BIOL (Biological study)
(vitamin K epoxide reductase of liver microsomes inhibition by Warfarin response to, in presence of dithiothreitol)

RN 25486-55-9 CAPLUS

CN Naphth[2,3-b]oxirene-2,7-dione, 1a,7a-dihydro-1a-methyl-7a-(3,7,11,15-tetramethyl-2-hexadecen-1-yl)- (CA INDEX NAME)



L18 ANSWER 19 OF 26 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1983:175510 CAPLUS

DN 98:175510

OREF 98:26613a,26616a

TI Purification and properties of a factor from rat liver cytosol which stimulates vitamin K epoxide reductase

AU Siegfried, Charles M.

CS Med. Cent., Univ. Nebraska, Omaha, NE, 68105, USA

SO Archives of Biochemistry and Biophysics (1983), 223(1), 129-39
CODEN: ABBIA4; ISSN: 0003-9861

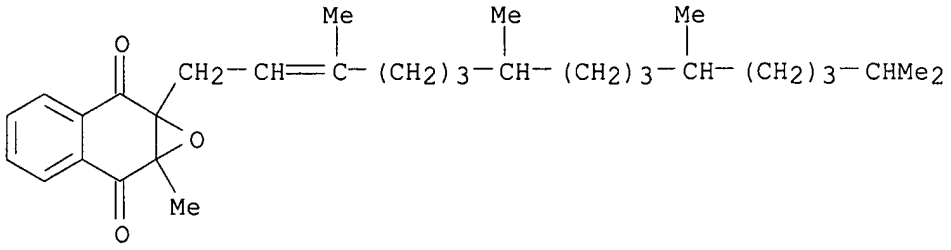
DT Journal

LA English

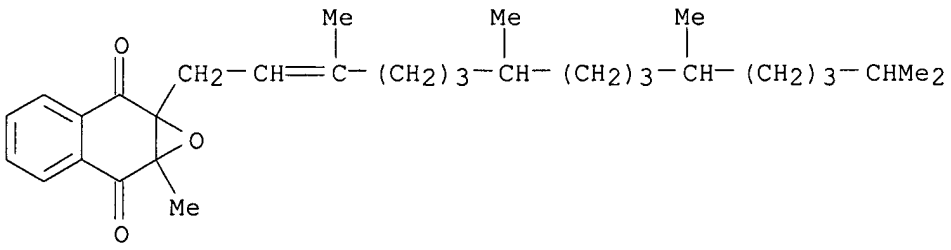
AB Two protein-type factors which stimulate the reduction of vitamin K1 2,3-epoxide to vitamin K1 were separated from the 105,000 g supernatant fraction (cytosol) of rat liver homogenates. One of these factors was rather labile. However, the other factor was sufficiently stable to permit a 900-fold purification Four mg of this purified material were obtained in 32% yield from 11 g of soluble cytosolic protein. This factor appeared to be homogeneous, as determined by gel electrophoresis, and had a mol. weight of .apprx.38,000, as determined by gel filtration. The final preparation had no vitamin K epoxide reductase (I) activity in the presence or absence of either NADH or dithiothreitol. The results of kinetic studies using this factor were consistent with its acting as a nonessential activator of the microsome-catalyzed reduction of vitamin K1 2,3-epoxide. The factor did not cause a large change in the apparent Km of I (2.2-2.5 μM in the absence and presence of activator, resp.), but the apparent Vmax was increased .apprx.4-fold.

IT 25486-55-9

RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with vitamin K epoxide reductase, kinetics of)
RN 25486-55-9 CAPLUS
CN Naphth[2,3-b]oxirene-2,7-dione, 1a,7a-dihydro-1a-methyl-7a-(3,7,11,15-tetramethyl-2-hexadecen-1-yl)- (CA INDEX NAME)

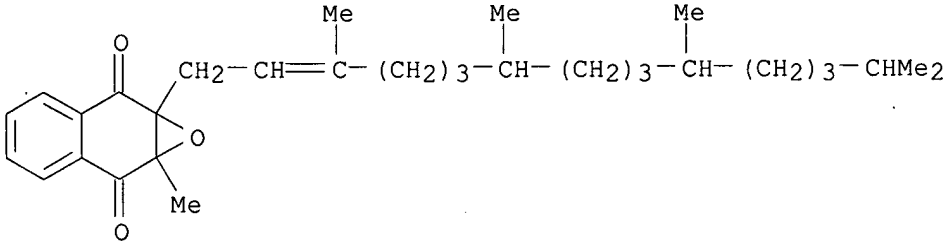


L18 ANSWER 20 OF 26 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1983:121904 CAPLUS
DN 98:121904
OREF 98:18517a,18520a
TI Stereospecificity of vitamin K-epoxide reductase
AU Preusch, Peter C.; Suttie, John W.
CS Coll. Agric. Life Sci., Univ. Wisconsin, Madison, WI, 53706, USA
SO Journal of Biological Chemistry (1983), 258(2), 714-16
CODEN: JBCHA3; ISSN: 0021-9258
DT Journal
LA English
AB The stereoselectivity of vitamin K-epoxide reductase (I) for the oxirane ring configuration of vitamin K epoxide (II) was determined by recovery of the partially resolved unreacted substrate following incubations of racemic II with rat liver microsomes. II was enriched for the (-)-enantiomer, but selectivity for the biol. relevant (+)-enantiomer was low. This result was confirmed by direct comparison of the rates of reaction for racemic II and (+)-II. The selectivity of I for the cis- or trans-phytyl configuration of the vitamin K side-chain was also low. These results suggest an enzyme active site which is open toward the 2,3-positions and is able to bind the substrate in 2 opposite orientations with respect to the positions of the Me and phytyl side-chain substituents.
IT 25486-55-9
RL: BIOL (Biological study)
(vitamin K epoxide reductase specificity for)
RN 25486-55-9 CAPLUS
CN Naphth[2,3-b]oxirene-2,7-dione, 1a,7a-dihydro-1a-methyl-7a-(3,7,11,15-tetramethyl-2-hexadecen-1-yl)- (CA INDEX NAME)



L18 ANSWER 21 OF 26 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1982:99977 CAPLUS
DN 96:99977

OREF 96:16357a,16360a
TI Vitamin K epoxide reductase: evidence that vitamin K dihydroquinone is a product of vitamin K epoxide reduction
AU Sherman, Paula A.; Sander, Eugene G.
CS Dep. Biochem., West Virginia Univ., Morgantown, WV, 26506, USA
SO Biochemical and Biophysical Research Communications (1981), 103(3), 997-1005
CODEN: BBRCA9; ISSN: 0006-291X
DT Journal
LA English
AB Vitamin K epoxide reductase of rat liver is a 2-component enzyme system which catalyzes the reduction of vitamin K epoxide, using dithiothreitol as either a primary or secondary source of reducing equivalent A high-performance liquid chromatog. assay system indicates that in addition to the quinone, the dihydroquinone form of vitamin K is a reaction product. CM-cellulose chromatog. suggests that the same cytosolic protein fraction may be involved in the dithiothreitol-supported reduction of vitamin K epoxide, the dithiothreitol-supported reduction of vitamin K quinone, and the NADH-supported reduction of dichloroindophenol.
IT 25486-55-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(reduction of, by vitamin K epoxide reductase of liver)
RN 25486-55-9 CAPLUS
CN Naphth[2,3-b]oxirene-2,7-dione, 1a,7a-dihydro-1a-methyl-7a-(3,7,11,15-tetramethyl-2-hexadecen-1-yl)- (CA INDEX NAME)



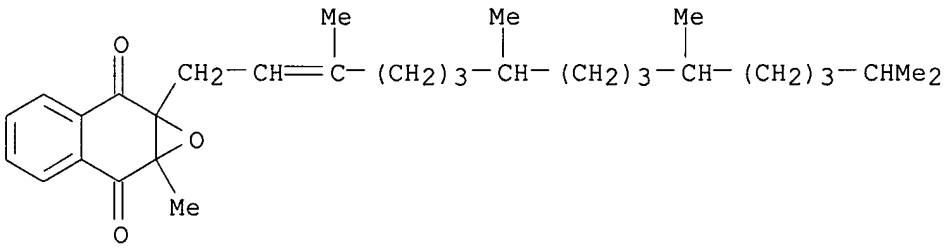
L18 ANSWER 22 OF 26 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1981:114409 CAPLUS
DN 94:114409
OREF 94:18551a,18554a
TI Age-dependent differences in the effect of phenprocoumon on the vitamin K1-epoxide cycle in rats
AU Trenk, Dietmar; Beermann, Dieter; Oesch, Franz; Jaehnchen, Eberhard
CS Pharmakol. Inst., Univ. Mainz, Mainz, D-6500, Fed. Rep. Ger.
SO Journal of Pharmacy and Pharmacology (1980), 32(12), 828-32
CODEN: JPPMAB; ISSN: 0022-3573
DT Journal
LA English
AB After phenprocoumon (I) [435-97-2] (0.355 mg/kg, i.v.) administration, the anticoagulant effect obtained was greater in older than in younger (36 and 12 wk, resp.) rats. The rate of elimination, volume of distribution, and the free fraction and free concentration values of I in plasma and liver were
similar in older and younger rats. Following i.v. 3H-labeled vitamin K1 (II) [11104-38-4] (64.3 μg/kg) and I (0.02-3 mg/kg), hepatic II-3H concentration decreased and 3H-labeled vitamin K1 2,3-epoxide (III) [25486-55-9] concentration increased in a dose- and hepatic I concentration-dependent manner. The changes were more pronounced in older than in younger rats; the concentration-response curves gave similar EC50 values for both age-groups, but a 1.6-fold higher maximum response, expressed as III/II ratios, in older rats. Thus, since anticoagulant drugs probably exert

their effect by inhibiting vitamin K1-epoxide reductase [55963-40-1], this enzyme may be more inhibited by I in older rats.

IT 25486-55-9
RL: BIOL (Biological study)
(cycle, phenprocoumon effect on, in aging)

RN 25486-55-9 CAPLUS

CN Naphth[2,3-b]oxirene-2,7-dione, 1a,7a-dihydro-1a-methyl-7a-(3,7,11,15-tetramethyl-2-hexadecen-1-yl)- (CA INDEX NAME)



L18 ANSWER 23 OF 26 CAPLUS COPYRIGHT 2008 ACS on STN

AN 1980:89866 CAPLUS

DN 92:89866

OREF 92:14671a,14674a

TI Studies of the vitamin K epoxide reductase system

AU Siegfried, Charles M.

CS Coll. Med., Univ. Nebraska, Omaha, NE, 68105, USA

SO Vitam. K Metab. Vitam. K-Dependent Proteins, [Proc. Steenbock Symp.], 8th (1980), Meeting Date 1979, 354-60. Editor(s): Suttie, John W. Publisher: Univ. Park Press, Baltimore, Md.
CODEN: 42IZAD

DT Conference

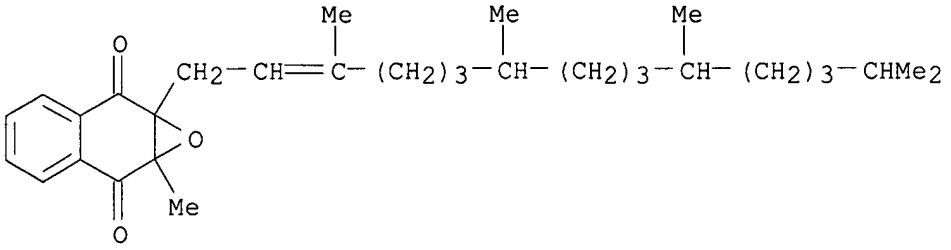
LA English

AB A protein (ERSA) was purified from liver cytosol which stimulated vitamin K epoxide reductase (I) activity and had no I activity itself. The purification involved chromatog. on DEAE-Sephacel, quaternary aminoethyl-Sephadex, and Sephadex S-200. The step involving quaternary aminoethyl-Sephadex yielded 2 peaks; the major one comprised 87% of the activity, and only it was further purified. It stimulated I 4-5-fold, similar to the effect of the unpurified cytosol. Both vitamin K and vitamin K epoxide served equally well as effectors for vitamin K-dependent protein carboxylation. The rate of conversion of vitamin K epoxide to vitamin K in the vitamin K-dependent carboxylation system used was not sufficient to account for the amount of protein carboxylation observed Apparently, vitamin K and its epoxide may be converted to a common intermediate in their role in vitamin K-dependent carboxylation. The purified ERSA stimulated vitamin K-dependent protein carboxylation .apprx.2-fold.

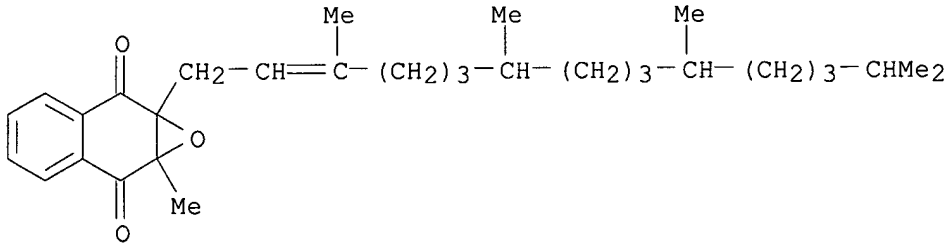
IT 25486-55-9
RL: BIOL (Biological study)
(protein carboxylase stimulation by, vitamin K epoxide reductase activator protein effect on)

RN 25486-55-9 CAPLUS

CN Naphth[2,3-b]oxirene-2,7-dione, 1a,7a-dihydro-1a-methyl-7a-(3,7,11,15-tetramethyl-2-hexadecen-1-yl)- (CA INDEX NAME)

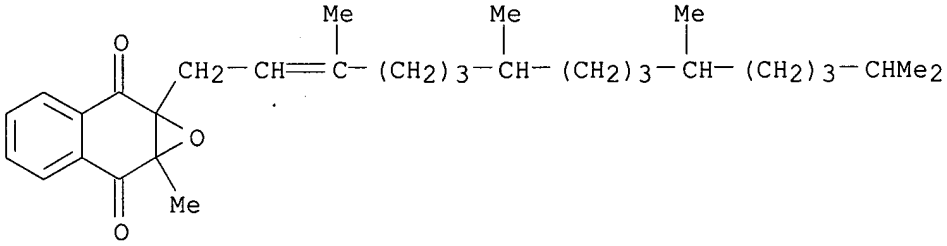


L18 ANSWER 24 OF 26 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1980:37038 CAPLUS
DN 92:37038
OREF 92:6163a
TI Determination of phylloquinone-2,3-epoxide and menaquinone-4-2,3-epoxide in biological materials by high performance liquid chromatography and fluorometric reaction detection
AU Hiroshima, Osamu; Abe, Kouichi; Ikenoya, Satoru; Ohmae, Masahiko; Kawabe, Kiyoshi
CS Anal. Res. Lab., Eisai Co., Ltd., Tokyo, Japan
SO Yakugaku Zasshi (1979), 99(10), 1007-13
CODEN: YKKZAJ; ISSN: 0031-6903
DT Journal
LA Japanese
AB A high performance liquid chromatog. method was developed for the simultaneous determined of vitamin K and vitamin K oxide in biol. materials. The method involves n-hexane extraction of plasma or liver homogenate and reversed phase separation on Nucleosil C18 with a mobile phase of MeOH-EtOH (7:3) followed by fluorometric detection of the reaction products with NaHSO3-HCl and NaBH3CN. The min. detectable quantity was 2 ng for phylloquinone and menaquinone-4, and 3 ng for phylloquinone oxide and menaquinone-4 oxide. This method is simpler and more specific than the conventional methods for the determination of vitamin K oxide.
IT 25486-55-9
RL: ANT (Analyte); ANST (Analytical study)
(determination of, in biol. materials by high-performance liquid chromatog.)
RN 25486-55-9 CAPLUS
CN Naphth[2,3-b]oxirene-2,7-dione, 1a,7a-dihydro-1a-methyl-7a-(3,7,11,15-tetramethyl-2-hexadecen-1-yl)- (CA INDEX NAME)



L18 ANSWER 25 OF 26 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1978:148032 CAPLUS
DN 88:148032
OREF 88:23283a,23286a
TI Enzymic hydroxymethylation of the benzene ring. 9. Activity of vitamin K in the enzymic hydroxymethylation of benzo[α]pyrene
AU Sloane, N. H.
CS Coll. Basic Med. Sci., Univ. Tennessee Cent. Health Sci., Memphis, TN, USA
SO Archives of Biochemistry and Biophysics (1978), 186(2), 401-5

CODEN: ABBIA4; ISSN: 0003-9861
DT Journal
LA English
AB Rat lung 6-hydroxymethylbenzo[a]pyrene synthetase was resolved into an apoenzyme by filtration of the holoenzyme through Amicon XM100 and XM50 filters. The enzymic activity was a function of the concentration of the lipid-soluble fraction prepared from the rat lung preparation when added to apoenzyme. The apoenzyme was purified ≥150-fold by these procedures. Vitamins K1 and K2, the 2,3-epoxide of vitamin K1, and menadione showed partial activity when substituted for the lung-lipid fractions. Some naphthoquinones also inhibited the reaction in the presence of vitamin K1. The synthetase reaction required NADPH.
IT 25486-55-9
RL: BIOL (Biological study)
(hydroxymethylbenzopyrene synthetase activation by)
RN 25486-55-9 CAPLUS
CN Naphth[2,3-b]oxirene-2,7-dione, 1a,7a-dihydro-1a-methyl-7a-(3,7,11,15-tetramethyl-2-hexadecen-1-yl)- (CA INDEX NAME)



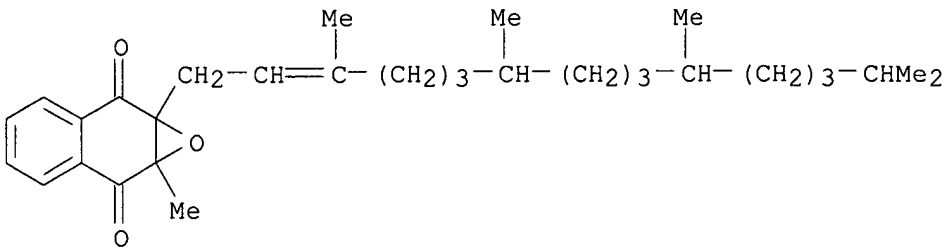
L18 ANSWER 26 OF 26 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1977:529372 CAPLUS
DN 87:129372
OREF 87:20541a,20544a
TI Vitamin K epoxidase: properties and relationship to prothrombin synthesis
AU Sadowski, J. A.; Schnoes, H. K.; Suttie, J. W.
CS Coll. Agric. Life Sci., Univ. Wisconsin, Madison, WI, USA
SO Biochemistry (1977), 16(17), 3856-63
CODEN: BICHAW; ISSN: 0006-2960
DT Journal
LA English
AB Postmitochondrial supernatants from vitamin K-deficient rat liver catalyze both the vitamin K-dependent conversion of microsomal precursor proteins to prothrombin, and the conversion of vitamin K1 to its 2,3-epoxide. Requirements for the latter reaction were studied, and the possible relation of the 2 reactions were investigated. The epoxidase activity was located in the microsomes and, if NAD(P)H was provided, no cytosolic component was required. The reduced pyridine nucleotides were needed to reduce vitamin K to its hydroquinone, and, when the hydroquinone was used as a substrate, no other source of reducing equivs. was required. The reaction required mol. O, which was incorporated into the epoxide. When the reaction was carried out in 2H2O, no 2H was incorporated into either the vitamin or its epoxide, suggesting that chromanol or methide forms of the vitamin were not intermediates in any of the reactions being studied. The epoxidn. of the vitamin was inhibited by direct antagonists of the vitamin, but not by the coumarin anticoagulant, warfarin. In general, conditions which favor epoxide formation also stimulate the formation of prothrombin. One major exception is the lack of dependence of epoxidn. on HCO3- concentration, but a requirement of HCO3- for prothrombin formation. The data reported here are consistent with, but do not prove, the hypothesis that the epoxidn. reaction is coupled in some obligatory manner to the vitamin K-dependent carboxylation which is required for prothrombin

formation.

IT 25486-55-9
RL: BIOL (Biological study)
(prothrombin formation response to)

RN 25486-55-9 CAPLUS

CN Naphth[2,3-b]oxirene-2,7-dione, 1a,7a-dihydro-1a-methyl-7a-(3,7,11,15-tetramethyl-2-hexadecen-1-yl)- (CA INDEX NAME)



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         10797 SKINS
L19     277988 SKIN
                 (SKIN OR SKINS)

=> s dermatology
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          6411 DERMATOL
L20       6960 DERMATOLOGY
                 (DERMATOLOGY OR DERMATOL)

=> s dermatological
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            12 DERMATOLOGICALS
          2477 DERMATOLOGICAL
                 (DERMATOLOGICAL OR DERMATOLOGICALS)
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L22           1 L18 AND L19

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of L-numbers, enter DISPLAY HISTORY at an arrow prompt (=>).

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L23           1 L18 AND L20

=> s l18 and l21
L24           1 L18 AND L21

=> d l22 bib

L22  ANSWER 1 OF 1  CAPLUS  COPYRIGHT 2008 ACS on STN
AN   2004:633495  CAPLUS
DN   141:151034
TI   Use of a composition comprising vitamin K1 oxide or a derivative
     thereof for the treatment and/or the prevention of mammalian
     dermatological lesions
IN   Marchal, Alfred
PA   Auriga International S.A., Belg.
SO   PCT Int. Appl., 17 pp.
     CODEN: PIXXD2
DT   Patent
LA   English
FAN.CNT 2
     PATENT NO.          KIND   DATE        APPLICATION NO.         DATE
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PI   WO 2004064798        A1    20040805    WO 2004-BE11            20040120
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             CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
             GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
             LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ
     EP 1442738          A1    20040804    EP 2003-447019          20030128
         R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK
     CA 2513324          A1    20040805    CA 2004-2513324         20040120
     EP 1594456          A1    20051116    EP 2004-703319          20040120
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     CN 1738594           A     20060222    CN 2004-80002490       20040120
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     EP 2003-447019       A     20030128
     US 2002-361234P      P     20020301
     WO 2004-BE11         W     20040120
OS   MARPAT 141:151034
RE.CNT  5     THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
              ALL CITATIONS AVAILABLE IN THE RE FORMAT


=> d l23 bib

L23  ANSWER 1 OF 1  CAPLUS  COPYRIGHT 2008 ACS on STN
AN   2004:633495  CAPLUS
DN   141:151034
TI   Use of a composition comprising vitamin K1 oxide or a derivative
     thereof for the treatment and/or the prevention of mammalian
     dermatological lesions
IN   Marchal, Alfred
PA   Auriga International S.A., Belg.
SO   PCT Int. Appl., 17 pp.
     CODEN: PIXXD2
DT   Patent
LA   English
FAN.CNT 2
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PRAI US 2003-319887P      P     20030120
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              ALL CITATIONS AVAILABLE IN THE RE FORMAT


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L24  ANSWER 1 OF 1  CAPLUS  COPYRIGHT 2008 ACS on STN
AN   2004:633495  CAPLUS
DN   141:151034
TI   Use of a composition comprising vitamin K1 oxide or a derivative
     thereof for the treatment and/or the prevention of mammalian
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dermatological lesions
IN Marchal, Alfred
PA Auriga International S.A., Belg.
SO PCT Int. Appl., 17 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 2

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OS MARPAT 141:151034
RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
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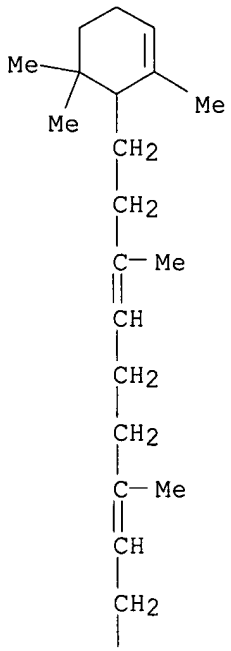

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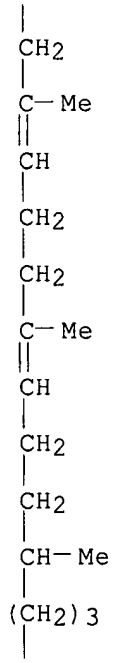
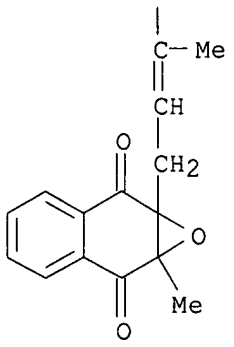
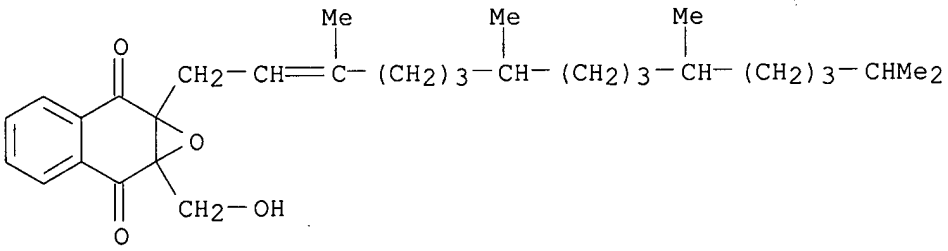




PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L9 25 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
IN Naphth[2,3-b]oxirene-2,7-dione, 1a,7a-dihydro-1a-(hydroxymethyl)-7a-(3,7,11,15-tetramethyl-2-hexadecenyl)- (9CI)
MF C31 H46 O4



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FULL ESTIMATED COST	358.56	426.43

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	0.00	-0.80

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L10         195 L9

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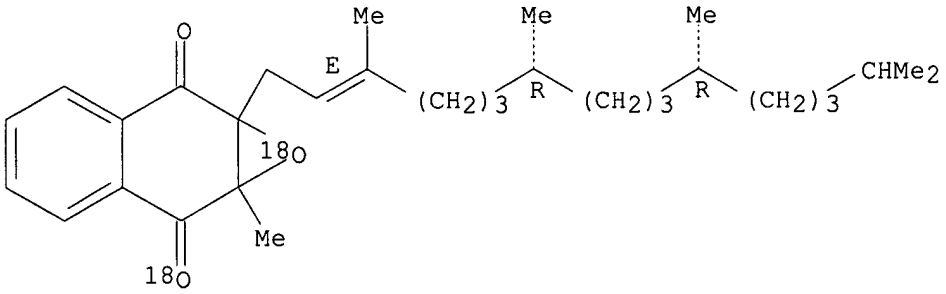
IN Naphth[2,3-b]oxirene-2,7-dione-1,2-18O2, 1a,7a-dihydro-1a-methyl-7a-(3,7,11,15-tetramethyl-2-hexadecenyl)-, [7a(2E,7R,11R)]-[partial]- (9CI)
MF C31 H46 O3

Absolute stereochemistry.
Double bond geometry as shown.



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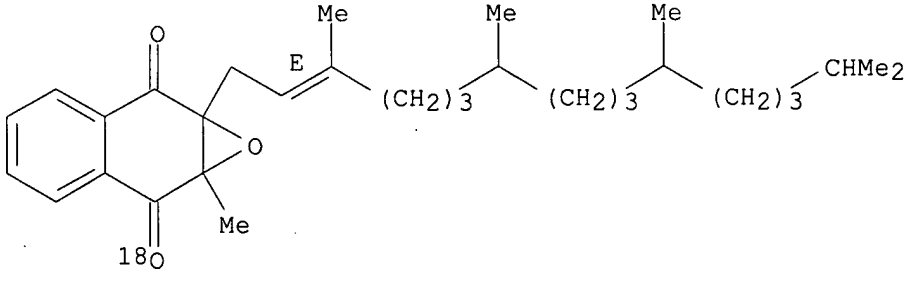
MF C31 H46 O3

Double bond geometry as shown.



L9 25 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
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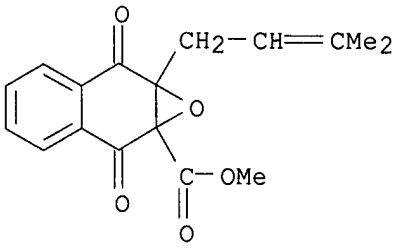

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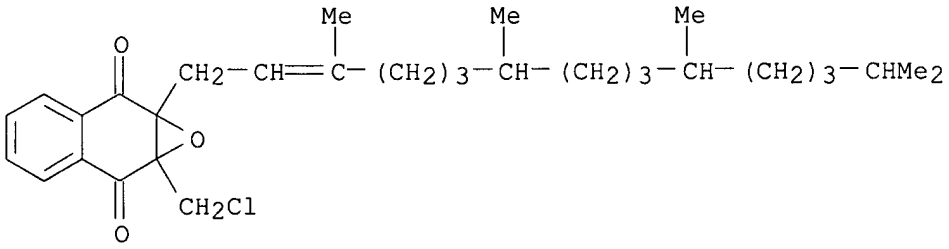

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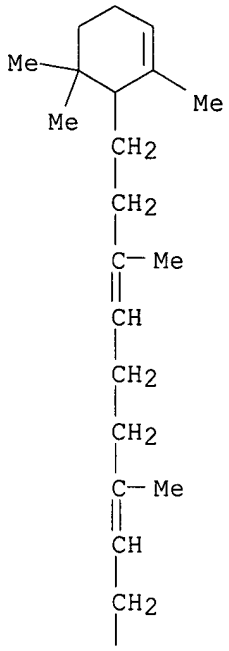

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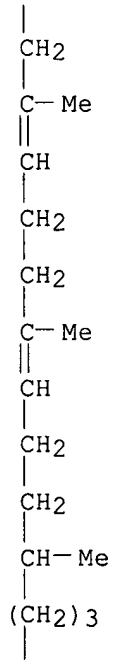

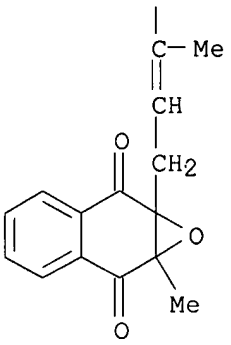

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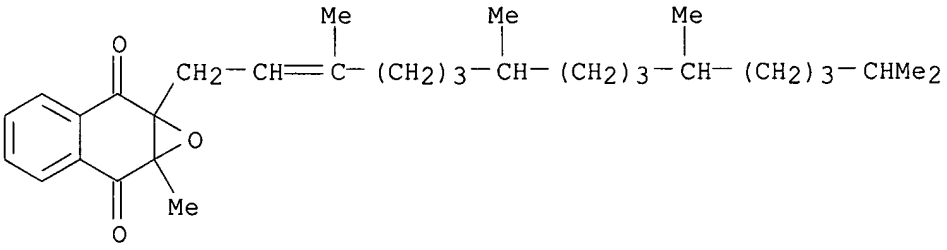
MF C31 H46 O3



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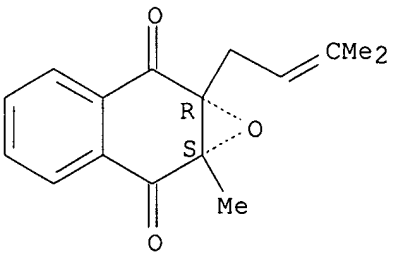
Absolute stereochemistry.



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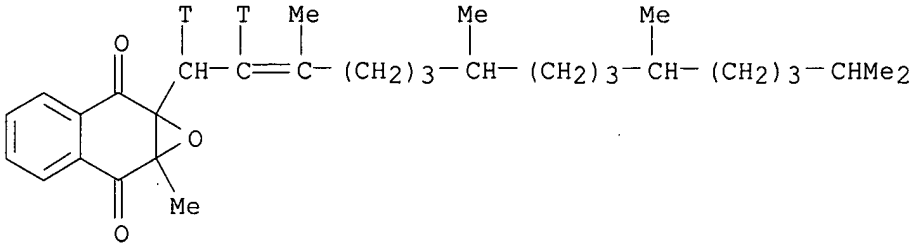

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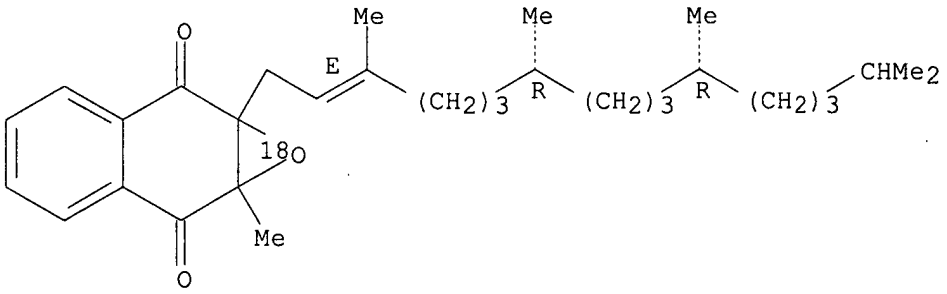
MF C31 H46 O3

Absolute stereochemistry.
Double bond geometry as shown.



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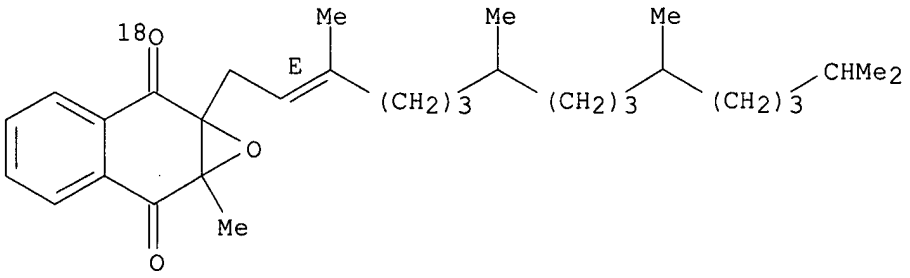
Double bond geometry as shown.



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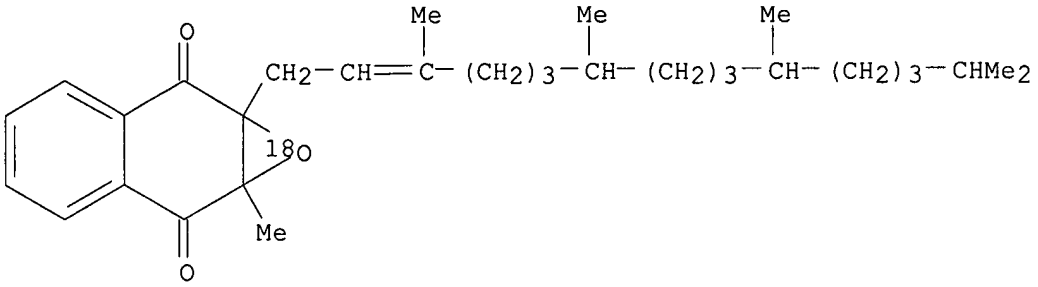

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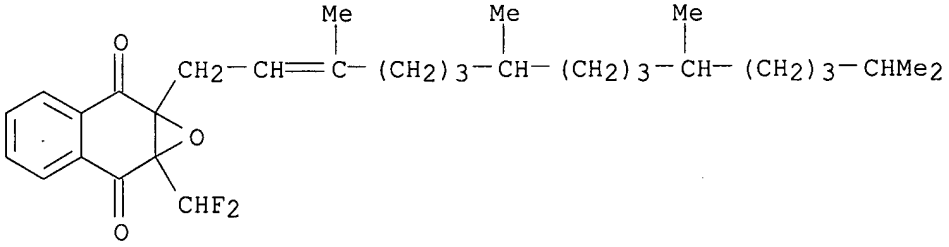

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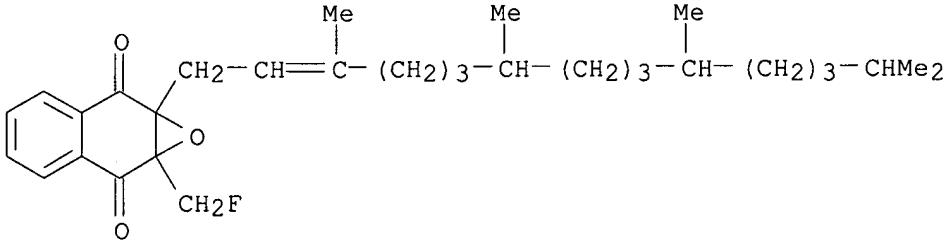

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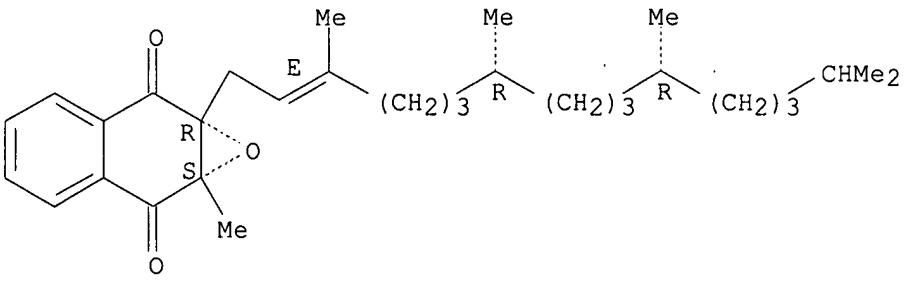
(9CI)
MF C31 H46 O3

Absolute stereochemistry.
Double bond geometry as shown.



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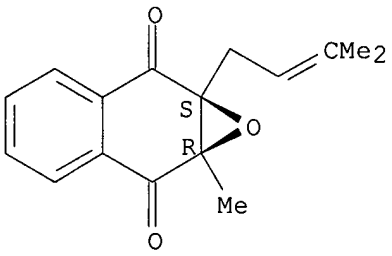
MF C16 H16 O3

Absolute stereochemistry.



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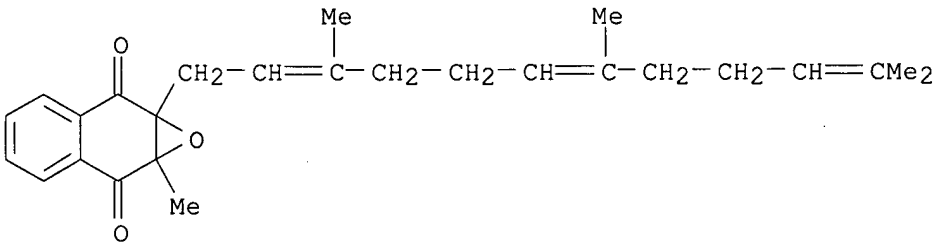

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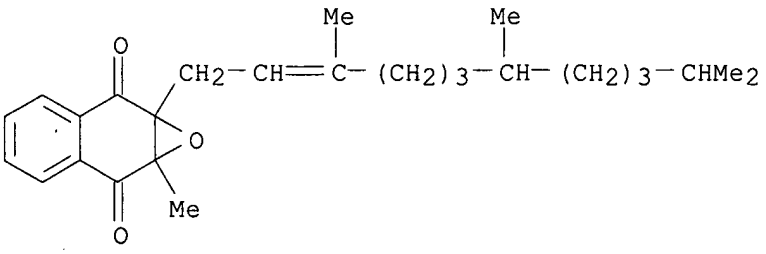

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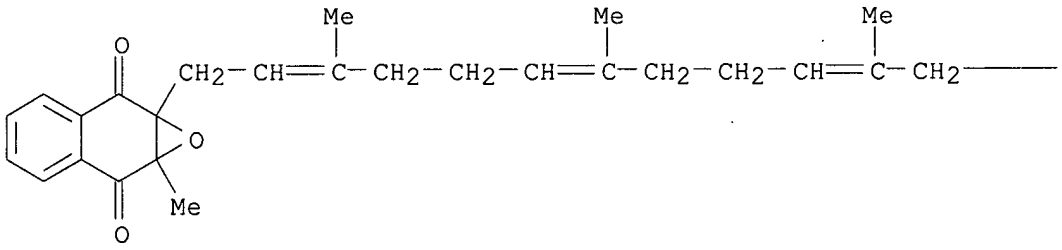
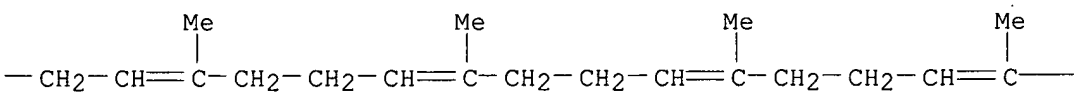
MF C56 H80 O3

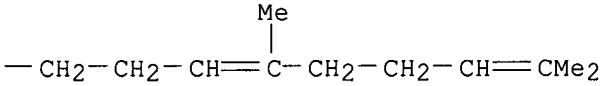
PAGE 1-A



PAGE 1-B



PAGE 1-C

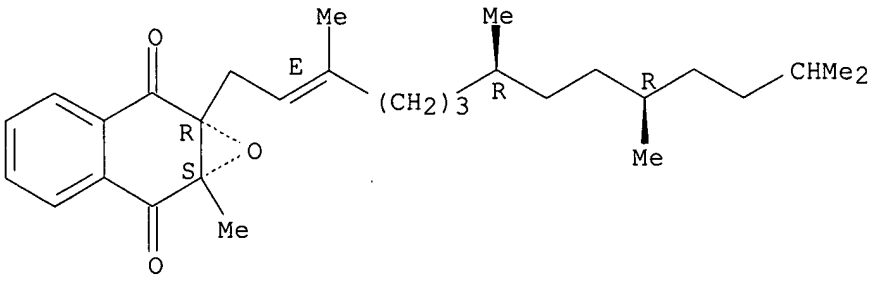


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L9 25 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN

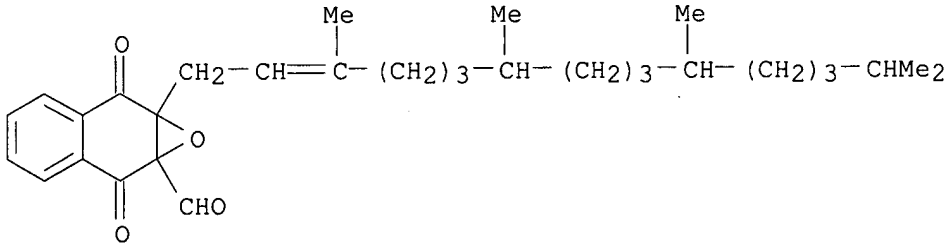
IN Naphth[2,3-b]oxirene-2,7-dione, 1a,7a-dihydro-1a-methyl-7a-(3,7,10,13-tetramethyl-2-tetradecenyl)-, [1aS-[1aα,7aα(2E,7S*,10S*)]]- (9CI)
MF C29 H42 O3

Absolute stereochemistry.
Double bond geometry as shown.



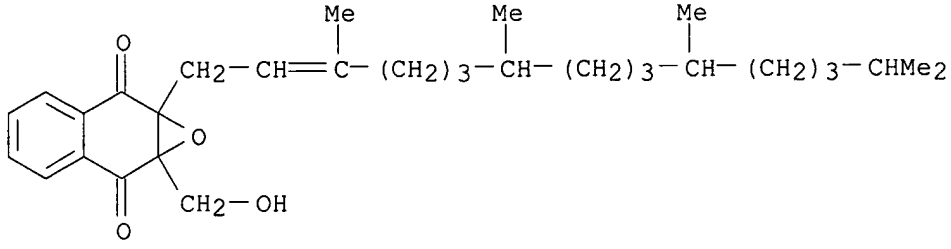
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L9 25 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
IN Naphth[2,3-b]oxirene-1a(2H)-carboxaldehyde, 7,7a-dihydro-2,7-dioxo-7a-(3,7,11,15-tetramethyl-2-hexadecenyl)- (9CI)
MF C31 H44 O4



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

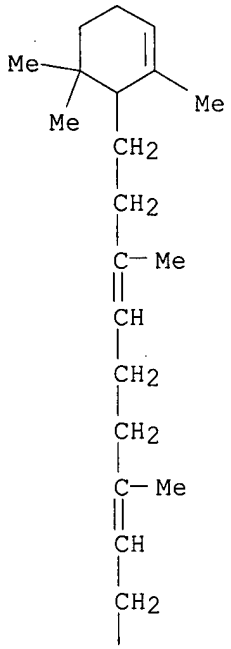
L9 25 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
IN Naphth[2,3-b]oxirene-2,7-dione, 1a,7a-dihydro-1a-(hydroxymethyl)-7a-(3,7,11,15-tetramethyl-2-hexadecenyl)- (9CI)
MF C31 H46 O4



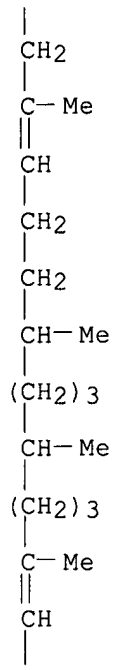
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L9 25 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
IN Naphth[2,3-b]oxirene-2,7-dione, 1a-[3,7,11,15,19,23-hexamethyl-25-(2,6,6-trimethyl-2-cyclohexen-1-yl)-2,14,18,22-pentacosatetraenyl]-1a,7a-dihydro-7a-methyl- (9CI)
MF C51 H76 O3

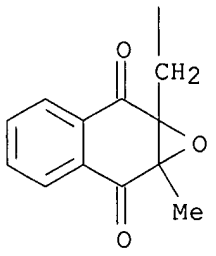
PAGE 1-A



PAGE 2-A

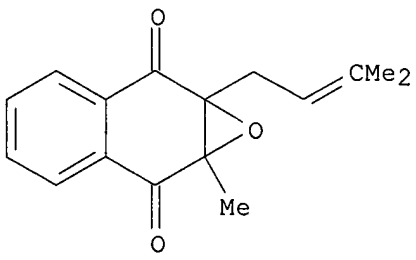


PAGE 3-A



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

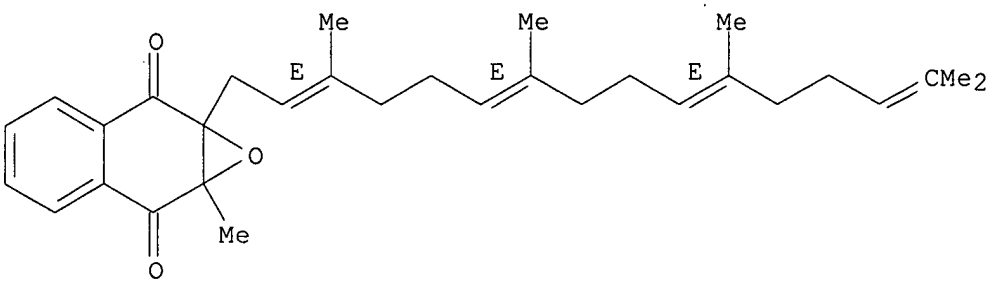
L9 25 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
IN Naphth[2,3-b]oxirene-2,7-dione, 1a,7a-dihydro-1a-methyl-7a-(3-methyl-2-butenyl)- (9CI)
MF C16 H16 O3



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

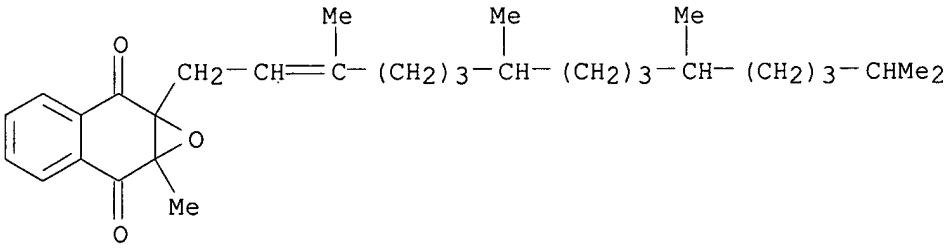
L9 25 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
IN Naphth[2,3-b]oxirene-2,7-dione, 1a,7a-dihydro-1a-methyl-7a-(3,7,11,15-tetramethyl-2,6,10,14-hexadecatetraenyl)-, (E,E,E)- (9CI)
MF C31 H40 O3

Double bond geometry as shown.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L9 25 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
IN Naphth[2,3-b]oxirene-2,7-dione, 1a,7a-dihydro-1a-methyl-7a-(3,7,11,15-tetramethyl-2-hexadecen-1-yl)-
MF C31 H46 O3



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

ALL ANSWERS HAVE BEEN SCANNED

=> file registry

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	10.58	437.49

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	0.00	-0.80

FILE 'REGISTRY' ENTERED AT 20:06:24 ON 22 JAN 2008

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 21 JAN 2008 HIGHEST RN 1000370-19-3
DICTIONARY FILE UPDATES: 21 JAN 2008 HIGHEST RN 1000370-19-3

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH June 29, 2007

Please note that search-term pricing does apply when conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

http://www.cas.org/support/stngen/stndoc/properties.html

=>
Uploading C:\Documents and Settings\jcho2\My Documents\10542914-c.str

L11 STRUCTURE UPLOADED

=> d l11
L11 HAS NO ANSWERS
L11 STR

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

Structure attributes must be viewed using STN Express query preparation.

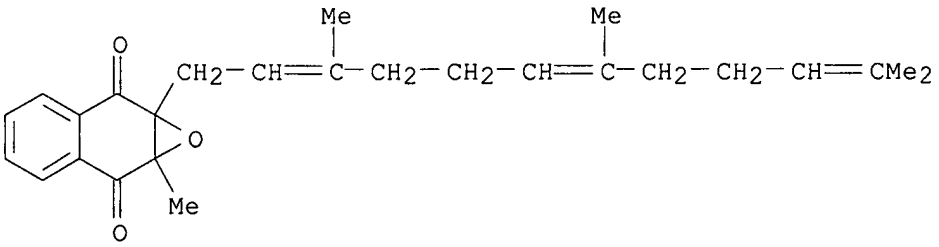
=> s l11 exa full
FULL SEARCH INITIATED 20:06:51 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 1 TO ITERATE

100.0% PROCESSED 1 ITERATIONS 1 ANSWERS
SEARCH TIME: 00.00.01

L12 1 SEA EXA FUL L11

=> d scan

L12 1 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
IN Naphth[2,3-b]oxirene-2,7-dione, 1a,7a-dihydro-1a-methyl-7a-(3,7,11-trimethyl-2,6,10-dodecatrienyl)- (9CI)
MF C26 H32 O3



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

ALL ANSWERS HAVE BEEN SCANNED

=> file caplus
COST IN U.S. DOLLARS | SINCE FILE ENTRY | TOTAL SESSION
FULL ESTIMATED COST | 60.31 | 497.80

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS) | SINCE FILE ENTRY | TOTAL SESSION
CA SUBSCRIBER PRICE | 0.00 | -0.80

FILE 'CAPLUS' ENTERED AT 20:06:59 ON 22 JAN 2008
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

FILE COVERS 1907 - 22 Jan 2008 VOL 148 ISS 4
FILE LAST UPDATED: 21 Jan 2008 (20080121/ED)

Effective October 17, 2005, revised CAS Information Use Policies apply.
They are available for your review at:

http://www.cas.org/infopolicy.html

=> s l12
L13 1 L12

=> d l12 bib abs hitstr
YOU HAVE REQUESTED DATA FROM FILE 'REGISTRY' - CONTINUE? (Y)/N:n

=> d l13 bib abs hitstr

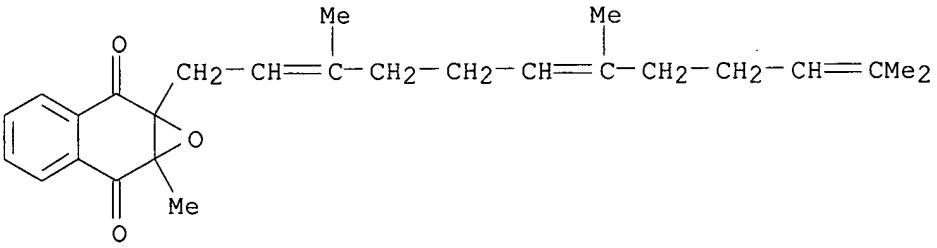
L13 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1979:199712 CAPLUS
DN 90:199712
OREF 90:31714h,31715a
TI High-performance liquid chromatography of menaquinone-4, 2,3-epoxymenaquinone-4, demethylmenaquinone-4 and related compounds
AU Donnahey, Peter L.; Burt, Valerie T.; Rees, Huw H.; Pennock, John F.
CS Dep. Biochem., Univ. Liverpool, Liverpool, UK
SO Journal of Chromatography (1979), 170(1), 272-7
CODEN: JOCRAM; ISSN: 0021-9673
DT Journal
LA English
AB Thin-layer chromatog. (TLC) and high-performance liquid chromatog. (HPLC) were evaluated for use in the separation of the title vitamin K-related compds. Three TLC systems were tested: adsorption, on silica gel G with the solvent, 6% Et2O in light petroleum; argentation, on 10% AgNO3-silica gel G with 60% diisopropyl ether in light petroleum; and reverse-phase, on

paraffin-impregnated Kieselguhr G with the solvent, 90% aqueous Me2CO. In addition, 3 HPLC systems were tested: (A) 3 + 30 cm μBondapak C18 column with acetonitrile-H2O (85:15) solvent; (B) 2 + 30 cm μBondapak C18 with MeOH solvent; and (C) 2 + 25 cm Partisil 10 ODS with acetonitrile-H2O (66:33) solvent. Since not all of the studied compds. could be separated clearly by a single TLC run, the HPLC system A was tested and found suitable for the separation of menadione, menaquinone-4 (and epoxy derivative), and menaquinone-3 (and epoxy derivative), whereas HPLC system B was suitable for separation of phylloquinone and its epoxy derivative The detection sensitivities for the HPLC and TLC systems were 5-10 and 250-500 ng, resp. HPLC system C was used to study the incorporation of mevalonic acid-2-14C into vitamin K in Carcinus maenas.

IT 70240-61-8
RL: ANT (Analyte); ANST (Analytical study)
(chromatog. of, high-performance liquid and thin-layer)

RN 70240-61-8 CAPLUS

CN Naphth[2,3-b]oxirene-2,7-dione, 1a,7a-dihydro-1a-methyl-7a-(3,7,11-trimethyl-2,6,10-dodecatrienyl)- (9CI) (CA INDEX NAME)



=> file registry

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	8.81	506.61

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-0.80	-1.60

FILE 'REGISTRY' ENTERED AT 20:11:02 ON 22 JAN 2008

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 21 JAN 2008 HIGHEST RN 1000370-19-3
DICTIONARY FILE UPDATES: 21 JAN 2008 HIGHEST RN 1000370-19-3

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH June 29, 2007

Please note that search-term pricing does apply when conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information

on property searching in REGISTRY, refer to:

http://www.cas.org/support/stngen/stndoc/properties.html

=>
Uploading C:\Documents and Settings\jcho2\My Documents\10542914-d.str

L14 STRUCTURE UPLOADED

=> d l14
L14 HAS NO ANSWERS
L14 STR

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

Structure attributes must be viewed using STN Express query preparation.

=> s exa full
ENTER LOGIC EXPRESSION, QUERY NAME, OR (END):end
SEARCH ENDED BY USER

=> s l14 exa full
FULL SEARCH INITIATED 20:11:34 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 19 TO ITERATE

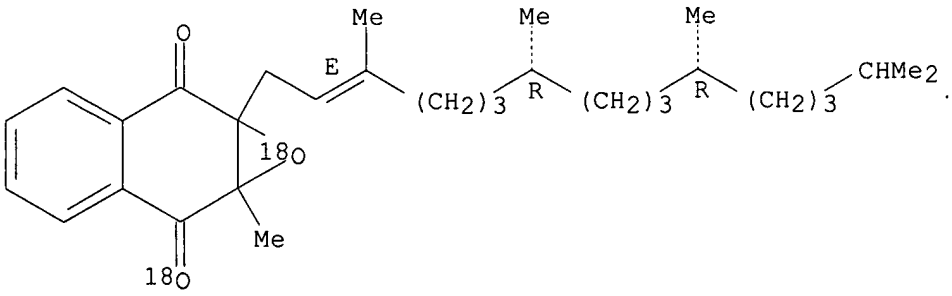
100.0% PROCESSED 19 ITERATIONS 9 ANSWERS
SEARCH TIME: 00.00.01

L15 9 SEA EXA FUL L14

=> d scan

L15 9 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
IN Naphth[2,3-b]oxirene-2,7-dione-1,2-18O2, 1a,7a-dihydro-1a-methyl-7a-(3,7,11,15-tetramethyl-2-hexadecenyl)-, [7a(2E,7R,11R)]-[partial]- (9CI)
MF C31 H46 O3

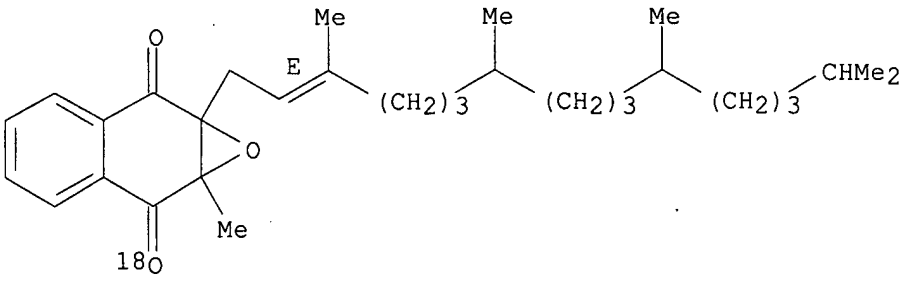
Absolute stereochemistry.
Double bond geometry as shown.



HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):10

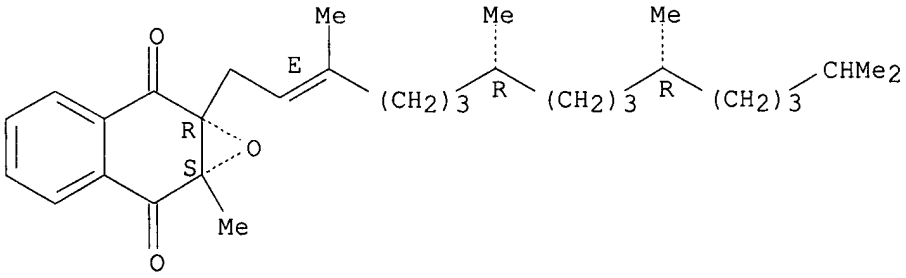
L15 9 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
IN Naphth[2,3-b]oxirene-2,7-dione-2-18O, 1a,7a-dihydro-1a-methyl-7a-(3,7,11,15-tetramethyl-2-hexadecenyl)-, (E)- (9CI)
MF C31 H46 O3

Double bond geometry as shown.



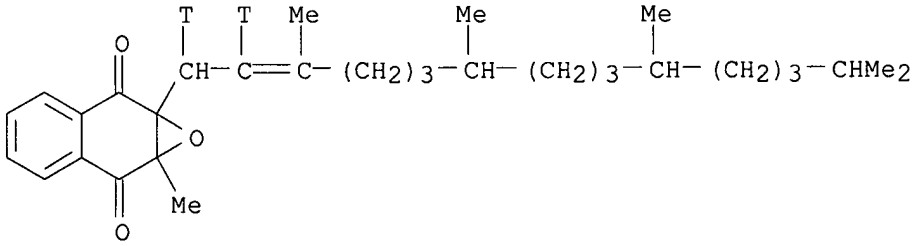
L15 9 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
IN Naphth[2,3-b]oxirene-2,7-dione, 1a,7a-dihydro-1a-methyl-7a-(3,7,11,15-tetramethyl-2-hexadecenyl)-, [1aS-[1aα,7aα(2E,7S*,11S*)]]- (9CI)
MF C31 H46 O3

Absolute stereochemistry.
Double bond geometry as shown.



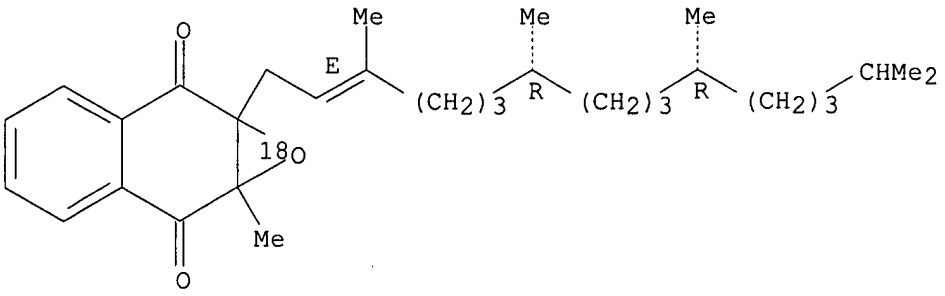
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L15 9 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
IN Naphth[2,3-b]oxirene-2,7-dione, 1a,7a-dihydro-1a-methyl-7a-(3,7,11,15-tetramethyl-2-hexadecenyl-1,2-t2)- (9CI)
MF C31 H44 O3 T2



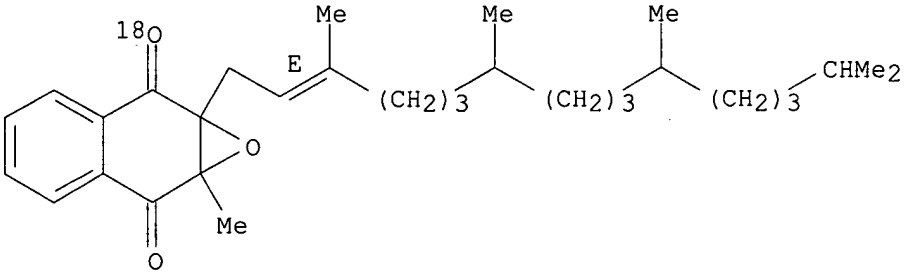
L15 9 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
IN Naphth[2,3-b]oxirene-2,7-dione-1-18O, 1a,7a-dihydro-1a-methyl-7a-(3,7,11,15-tetramethyl-2-hexadecenyl)-, [7a(2E,7R,11R)]-[partial]- (9CI)
MF C31 H46 O3

Absolute stereochemistry.
Double bond geometry as shown.

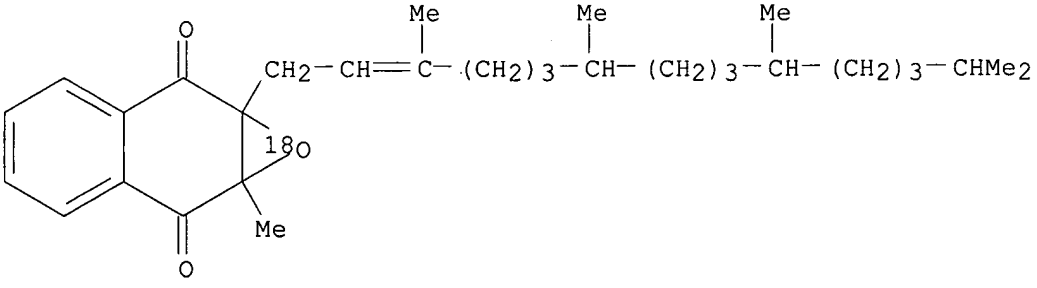


L15 9 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
IN Naphth[2,3-b]oxirene-2,7-dione-2-18O, 1a,7a-dihydro-7a-methyl-1a-(3,7,11,15-tetramethyl-2-hexadecenyl)-, (E)- (9CI)
MF C31 H46 O3

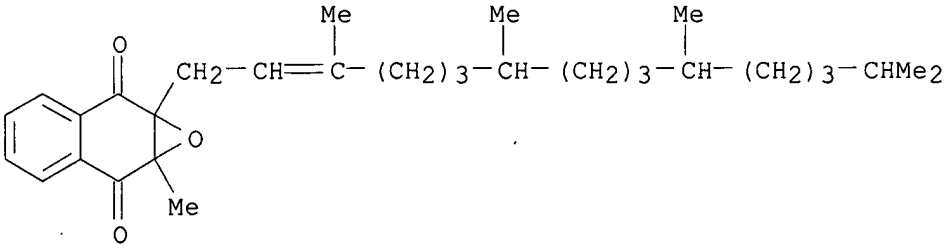
Double bond geometry as shown.



L15 9 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
IN Naphth[2,3-b]oxirene-2,7-dione-1-18O, 1a,7a-dihydro-1a-methyl-7a-(3,7,11,15-tetramethyl-2-hexadecenyl)- (9CI)
MF C31 H46 O3

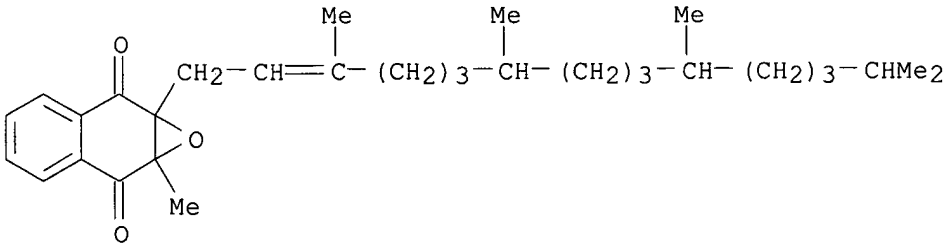


L15 9 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
IN Naphth[2,3-b]oxirene-2,7-dione, 1a,7a-dihydro-1a-methyl-7a-(3,7,11,15-tetramethyl-2-hexadecenyl)-, [1aR-[1aα,7aα(2E,7R*,11R*)]]-(9CI)
MF C31 H46 O3



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L15 9 ANSWERS REGISTRY COPYRIGHT 2008 ACS on STN
IN Naphth[2,3-b]oxirene-2,7-dione, 1a,7a-dihydro-1a-methyl-7a-(3,7,11,15-tetramethyl-2-hexadecen-1-yl)-
MF C31 H46 O3



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

ALL ANSWERS HAVE BEEN SCANNED

=> file caplus

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	60.31	566.92
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	0.00	-1.60

FILE 'CAPLUS' ENTERED AT 20:11:54 ON 22 JAN 2008
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